

standard of time. As soon as the cable companies agree upon such a standard there will be a fair prospect of its adoption by the newspapers and, eventually, by all civilized communities. Meanwhile, the elaborate table published in the London Geographical Magazine for February, 1899, will be very useful to those who are studying the cable reports from all parts of the world published in our daily papers.

SENSIBLE TEMPERATURES.

In the midst of the hot weather in the summer of 1898, an editorial in the New York Times suggested that the Weather Bureau modify the terms "warmer" and "cooler," as employed in forecasting the temperature.

Hitherto these terms have been supposed to refer exclusively to the temperature of the air, as indicated by the dry bulb thermometer. The suggestion is made that we combine the figures indicating temperature, humidity, and velocity of the winds into a single figure that would express just what people mean when they say and feel that the day is hot or cold. The new suggested figure would vary directly with the temperature and humidity, but inversely as the velocity of the wind.

The problem is much more difficult than is here suggested. We have frequently explained that the sensation of temperature differs with every individual, and will vary with the same individual according to his physical and mental condition. We think it must be left to each individual to predict his own sensations when once the Weather Bureau has predicted the temperature, moisture, and pressure of air and the velocity of the wind.

ORIGIN OF THE WORD "BLIZZARD."

On page 562 of the December REVIEW, we have given a reference to the use of the word "blizzard" as quoted from the Hutchinson County Herald, but it appears that the original of this goes further back, viz., to the "Dakota Republican," published at Vermilion during the winter of 1867-68.

FORESTS AND SNOWFALL.

In the January report of the Wyoming section, Mr. W. S. Palmer states that the snowfall for the month was unusually heavy, and a corresponding amount of moisture is thus stored for irrigation during the next summer. The average snowfall for the State was 15.2 inches. At the end of the month the snow was from 31 to 48 inches deep on the summits of a number of hills and peaks. On the snowy range the depth was 21 inches at an elevation of 8,700 feet, 16 inches at 9,000 feet, 24 inches at 10,000, and 43 inches at

11,000 feet. Mr. A. L. Foster, reporting on the snowy range, says:

The second growth of timber continues to hold from 6 to 10 inches more snow than the larger and more thickly wooded districts. Water in all streams is above the normal.

We have here an allusion to a very important service rendered by the forest. The latter retards the flow of the wind among its branches and foliage, and affords abundant opportunity for the driven snow to settle and rest upon the ground. It does not increase the quantity of moisture, but it preserves the fallen snow and rain to a remarkable extent.

RECENT EARTHQUAKES.

Reports from Mexico describe the earthquake of Monday evening, January 24, as the severest ever known in the City of Mexico. The first oscillation began at 5:09 p.m., local time. It was from northeast to southwest and lasted one minute and fifty-six seconds. Three minutes later came a second shock, which lasted five seconds, oscillating northwest and southeast. The earthquake was felt over the entire Republic of Mexico. At Colima it lasted one minute and twenty seconds; at Vera Cruz it lasted ten seconds. But few reports of this earthquake have been received from the United States, although it must have been feebly felt at many stations.

At San Bernardino, Cal., a shock was felt at 4:45 p.m., January 25. The newspapers of that city state that the shock was of a little greater severity than usual and that the barometer dropped from 30.12 to 29.86, "an unusual occurrence during a norther, probably due to an earthquake." Of course the latter suggestion is wholly inadmissible, and popular ignorance of this subject should not be increased by disseminating the idea that the atmospheric pressure can be affected by an earthquake. On the other hand, there is some basis for the idea that in rare cases a large change in the atmospheric pressure may give occasion for an earthquake, a result that is barely conceivable, but has never yet been demonstrated.

The Marvin seismograph at Washington recorded no earthquake during January. Professor Morley reports that his seismograph at Cleveland, Ohio, showed a considerable disturbance some time during the month. The direction of the vibrations was 10° east of north and 10° west of south, and there were about half a dozen vibrations. Having been laid up with illness, Professor Morley was unable to examine his apparatus at the proper time, and therefore could not state the date of the occurrence. The fact that no other station in the United States reported the Mexican earthquake of January 24 would indicate that the disturbance at Cleveland must have occurred on some other date.

DESCRIPTION OF TABLES AND CHARTS.

By ALFRED J. HENRY, Chief of Division of Records and Meteorological Data.

Table I gives, for about 130 Weather Bureau stations making two observations daily and for about 20 others making only one observation, the data ordinarily needed for climatological studies, viz., the monthly mean pressure, the monthly means and extremes of temperature, the average conditions as to moisture, cloudiness, movement of the wind, and the departures from normals in the case of pressure, temperature, and precipitation, the total depth of snowfall, and the mean wet-bulb temperatures. The altitudes of the instruments above ground are also given.

Table II gives, for about 2,700 stations occupied by volun-

tary observers, the highest maximum and the lowest minimum temperatures, the mean temperature deduced from the average of all the daily maxima and minima, or other readings, as indicated by the numeral following the name of the station; the total monthly precipitation, and the total depth in inches of any snow that may have fallen. When the spaces in the snow column are left blank it indicates that no snow has fallen, but when it is possible that there may have been snow of which no record has been made, that fact is indicated by leaders, thus (....).

Table III gives, for 26 stations selected out of 113 that main-

tain continuous records, the mean hourly temperatures deduced from the Richard thermographs described and figured in the Report of the Chief of the Weather Bureau, 1891-92, p. 29.

Table IV gives, for 26 stations selected out of 104 that maintain continuous records, the mean hourly pressures as automatically registered by Richard barographs, except for Washington, D. C., where Foreman's barograph is in use. Both instruments are described in the Report of the Chief of the Weather Bureau, 1891-92, pp. 26 and 30.

Table V gives, for about 130 stations, the arithmetical means of the hourly movements of the wind ending with the respective hours, as registered automatically by the Robinson anemometer, in conjunction with an electrical recording mechanism, described and illustrated in the Report of the Chief of the Weather Bureau, 1891-92, p. 19.

Table VI gives, for all stations that make observations at 8 a. m. and 8 p. m., the four component directions and the resultant directions based on these two observations only and without considering the velocity of the wind. The total movement for the whole month, as read from the dial of the Robinson anemometer, is given for each station in Table I. By adding the four components for the stations comprised in any geographical division the average resultant direction for that division can be obtained.

Table VII gives the total number of stations in each State from which meteorological reports of any kind have been received, and the number of such stations reporting thunderstorms (T) and auroras (A) on each day of the current month.

Table VIII gives, for about 70 stations, the average hourly sunshine (in percentages) as derived from the automatic records made by two essentially different types of instruments, designated, respectively, the thermometric recorder and the photographic recorder. The kind of instrument used at each station is indicated in the table by the letter T or P in the column following the name of the station.

Table IX gives a record of rains whose intensity at some period of the storm's continuance equaled or exceeded the following rates:

Duration, minutes..	5	10	15	20	25	30	35	40	45	50	60	80	100	120
Rates pr. hr. (Ins.)..	3.00	1.80	1.40	1.20	1.08	1.00	0.94	0.90	0.86	0.84	0.75	0.60	0.54	0.50

In the northern part of the United States, especially in the colder months of the year, rains of the intensities shown in the above table seldom occur. In all cases where no storm of sufficient intensity to entitle it to a place in the full table has occurred, the greatest rainfall of any single storm has been given, also the greatest hourly fall during that storm.

Table X gives the record of excessive precipitation at all stations from which reports are received.

Table XI gives, for about 30 stations furnished by the Canadian Meteorological Service, Prof. R. F. Stupart, director, the means of pressure and temperature, total precipitation and depth of snowfall, and the respective departures from normal values, except in the case of snowfall.

NOTES EXPLANATORY OF THE CHARTS.

Chart I.—Tracks of centers of high areas. The roman

letters show number and order of centers of high areas. The figures within the circles show the days of the month; the letters *a* and *p* indicate, respectively, the 8 a. m. and 8 p. m., seventy-fifth meridian time, observations. The queries (?) on the tracks show that the centers could not be satisfactorily located. Within each circle is given the highest barometric reading reported near the center. A blank indicates that no reports were available. A wavy line indicates the axis of a ridge of high pressure.

Chart II.—Tracks of centers of low areas. The roman letters show number and order of centers of low areas. The figures within the circles show the days of the month; the letters *a* and *p* indicate, respectively, the 8 a. m. and 8 p. m., seventy-fifth meridian time, observations. The queries (?) on the tracks show that the centers could not be satisfactorily located. Within each circle is given the lowest barometric reading reported near the center. A blank indicates that no reports were available. A wavy line indicates the axis of a trough or long oval area of low pressure.

Chart III.—Total precipitation. The scale of shades showing the depth of rainfall is given on the chart itself. For isolated stations the rainfall is given in inches and tenths, when appreciable; otherwise, a "trace" is indicated by a capital T, and no rain at all, by 0.0.

Chart IV.—Sea-level pressure, temperature, and resultant surface winds. The wind directions on this Chart are the computed resultants of observations at 8 a. m. and 8 p. m., daily; the resultant duration is shown by figures attached to each arrow. The temperatures are the means of daily maxima and minima and are reduced to sea level. The pressures are the means of 8 a. m. and 8 p. m. observations, daily, and are reduced to sea level and to standard gravity. The reduction for 30 inches of the mercurial barometer, as formerly shown by the marginal figures for each degree of latitude, has already been applied.

Chart V.—Hydrographs for seven principal rivers of the United States.

Chart VI.—Surface temperatures; maximum, minimum, and mean. Lines of equal monthly mean temperature in red; lines of equal maximum temperature in black; and lines of equal minimum temperature (dotted) also in black.

Chart VII.—Percentage of sunshine. The average cloudiness at each Weather Bureau station is determined by numerous personal observations during the day. The difference between the observed cloudiness and 100, it is assumed, represents the percentage of sunshine, and the values thus obtained have been used in preparing Chart VII.

Chart VIII.—The total snowfall. This is based on the reports from all available observers and shows the depth of the snowfall during the month in inches. In general, the depth is shown by lines and areas of equal snowfall, but in some cases figures are also given for special localities.

Chart IX.—Depth of snow on ground. This chart is based essentially upon reports from regular and special observers and shows the depth of snow lying on the ground at the end of the month, which is, therefore, the accumulated excess of the snowfall over its loss by melting, evaporation, and settling.

TABLE I.—Climatological data for Weather Bureau Stations, January, 1899.

Stations.	Elevation of instruments.		Pressure, in inches.		Temperature of the air, in degrees Fahrenheit.								Precipitation, in inches.		Wind.														
	Barometer above sea level, feet.	Thermometers above ground.	Mean actual, 8 a.m. and 8 p.m. + 2°.	Mean reduced.	Departure from normal.	Mean max. and min. + 2°.	Maximum.	Date.	Mean maximum.	Departure from normal.	Minimum.	Date.	Mean minimum.	Greatest daily range.	Mean wet thermometer.	Mean temperature of the dew-point.	Mean relative humidity, per cent.	Total.	Departure from normal.	Days with 30, or more.	Total movement, miles.	Prevailing direction.	Miles per hour.	Maximum velocity.	Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness, tenths.	Total snowfall.
	Barometer above ground.	Anemometer above ground.	Mean actual, 8 a.m. and 8 p.m. + 2°.	Mean reduced.	Departure from normal.	Mean max. and min. + 2°.	Maximum.	Date.	Mean maximum.	Departure from normal.	Minimum.	Date.	Mean minimum.	Greatest daily range.	Mean wet thermometer.	Mean temperature of the dew-point.	Mean relative humidity, per cent.	Total.	Departure from normal.	Days with 30, or more.	Total movement, miles.	Prevailing direction.	Miles per hour.	Date.					
New England.																													
Eastport.	76	69	74	29.94	30.04	+ .04	27.3	+ 0.5	21.3	+ 0.5	19.3	15	15	74	3.85	- 0.1	18	10,688	w.	48	e.	6	11	5	5.3	16.5			
Portland, Me.	103	81	89	29.94	30.05	+ .00	23.8	+ 0.8	57	+ 0.8	52	15	12	84	8.86	- 0.1	20	5,782	nw.	28	5	15	5.8	16.5					
Northfield.	872	15	65	29.10	30.13	+ .05	14.8	+ 0.7	55	+ 0.8	52	3	10	83	1.77	+ 0.1	12	7,667	s.	48	sw.	5	8	11	6.0	11.6			
Boston.	125	115	131	29.97	30.11	+ .05	29.2	+ 2.2	57	+ 0.8	52	34	17	83	4.19	+ 0.1	9	9,355	w.	40	nn.	25	13	8	10	4.8	6.1		
Nantucket.	14	43	54	30.11	30.12	+ .09	32.7	+ 1.3	57	+ 0.8	52	81	20	84	2.74	+ 0.1	10	10,081	n.	ne.	1	9	14	6.3	7.7				
Woods Hole.	32	51	57	.....	.....	.....	30.4	+ 0.6	54	+ 0.6	52	24	22	.....	3.25	+ 0.5	11	12,517	sw.	52	sw.	15	13	7	11	4.9	8.8	
Vineyard Haven.	30	51	57	.....	.....	.....	34.0	+ 0.6	54	+ 0.6	52	26	22	.....	3.72	+ 0.1	8	8,184	sw.	36	n.	6	11	10	10	5.1	2.7	
Block Island.	27	39	48	30.11	30.14	+ .06	30.4	+ 0.7	53	+ 0.7	52	21	21	23	6.04	+ 1.0	11	11,799	nw.	45	e.	6	11	2	9	5.8	8.8		
Narragansett.	10	.....	.....	.....	.....	.....	29.2	+ 0.4	53	+ 0.4	52	19	19	23	7.2	+ 0.7	10	7,441	sw.	36	w.	15	17	4	10	4.5	8.2	
New Haven.	107	118	140	30.02	30.14	+ .03	27.8	+ 0.3	52	+ 0.3	52	25	25	20	74	4.33	+ 0.0	11	.....	.....	.....	.....	.....	.....	.....	.....	.....
Md. Atlan. States.																													
Albany.	97	84	118	30.04	30.16	+ .07	32.9	+ 0.6	51	+ 0.6	52	11	12	14	75	3.24	+ 0.4	10	6,729	s.	32	se.	21	10	11	10	5.8	9.4	
Binghamton.	875	79	90	30.04	30.16	+ .05	32.4	+ 0.6	54	+ 0.6	52	24	24	23	75	2.50	+ 0.4	10	5,578	nw.	39	w.	14	10	8	13	5.9	10.5	
New York.	314	814	846	29.11	30.16	+ .05	30.8	+ 0.3	56	+ 0.8	53	24	24	23	75	4.08	+ 0.1	10	11,240	nn.	66	nn.	25	14	9	10	5.9	8.7	
Harrisburg.	377	94	104	.....	.....	.....	28.6	+ 1.7	54	+ 0.6	52	1	2	23	76	2.27	+ 1.4	11	5,522	w.	40	w.	27	27	8	13	5.9	8.8
Philadelphia.	117	168	184	30.05	30.18	+ .08	32.8	+ 0.8	56	+ 0.6	52	11	12	13	71	4.01	+ 0.6	12	5,942	sw.	42	n.	43	25	9	11	11	5.3	4.4
Atlantic City.	52	68	76	30.12	30.18	+ .07	33.8	+ 0.8	54	+ 1.1	41	5	6	26	71	2.40	+ 1.4	13	8,296	n.	46	nw.	25	25	9	11	5.6	3.4	
Cape May.	24	52	59	30.17	30.19	+ .04	34.0	+ 0.6	51	+ 0.4	40	11	12	13	69	3.50	+ 1.4	14	8,340	sw.	24	w.	27	15	5	11	6.2	4.9	
Baltimore.	123	68	82	30.04	30.18	+ .04	33.4	+ 0.6	59	+ 0.4	41	6	7	26	69	2.94	+ 0.2	14	4,863	s.	32	d.	7	15	8	13	5.1	9.4	
Washington.	113	58	76	30.06	30.19	+ .03	33.4	+ 0.6	60	+ 0.6	52	1	2	25	73	3.19	+ 0.6	14	10,492	n.	26	n.	26	26	8	13	5.5	8.4	
Cape Henry.	5	34	44	29.42	30.20	+ .05	36.6	+ 0.2	63	+ 0.6	52	14	16	18	75	4.95	+ 1.0	13	8,066	ne.	36	n.	26	26	8	13	5.5	7.5	
Lynchburg.	685	88	98	30.02	30.20	+ .05	36.6	+ 0.2	63	+ 0.6	52	14	16	18	75	3.05	+ 0.8	13	5,725	s.	36	n.	24	24	8	13	5.5	2.6	
Norfolk.	92	102	111	30.10	30.20	+ .06	41.3	+ 0.9	63	+ 0.6	52	18	20	22	84	2.94	+ 0.2	13	5,146	.....	28	n.	1	9	9	10	5.7	8.0
Richmond.	144	98	105	.....	.....	.....	37.6	.....	66	+ 0.6	52	10	12	13	83	1.06	+ 0.2	13	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. Atlantic States.																													
Charlotte.	778	68	76	29.34	30.19	+ .04	40.3	+ 0.9	66	+ 0.6	52	16	18	20	81	4.81	+ 0.8	12	5,726	sw.	34	sw.	24	8	6	17	6.3	5.5	
Hatteras.	11	17	35	30.17	30.18	+ .05	48.4	+ 2.7	71	+ 0.6	52	28	29	37	81	4.47	+ 1.4	12	11,529	n.	58	n.	25	12	8	13	5.8	T.	
Kittyhawk.	9	12	30	30.17	30.18	+ .05	45.1	+ 2.7	68	+ 0.6	52	24	25	37	81	4.50	+ 0.6	12	11,582	n.	58	s.	6	10	7	14	5.6	7.7	
Raleigh.	375	93	101	29.80	30.21	+ .06	40.4	+ 0.4	73	+ 0.6	50	14	15	16	81	3.37	+ 0.1	13	5,108	n.	32	sw.	6	10	7	14	5.6	0.8	
Wilmington.	78	82	90	30.11	30.20	+ .06	47.2	+ 0.8	73	+ 0.6	57	22	23	28	81	2.40	+ 1.5	12	6,394	n.	34	n.	6	10	5	15	5.9	4.4	
Charleston.	48	14	92	30.16	30.21	+ .06	49.9	+ 0.1	71	+ 0.5	57	27	28	43	81	3.84	+ 1.2	12	8,375	n.	34	n.	1	5	15	11	5.9	4.4	
Columbia.	5	.....	.....	.....	.....	.....	44.6	+ 1.1	76	+ 0.6	55	22	22	37	81	5.76	+ 1.8	12	4,826	n.	30	sw.	6	12	8	13	6.2	4.9
Augusta.	180	89	103	29.99	30.19	+ .05	45.9	+ 0.7	73	+ 0.6	55	22	22	37	81	5.76	+ 1.8	12	4,826	n.	30	sw.	6	12	8	13	6.2	4.9	
Savannah.	82	88	99	30.10	30.19	+ .03	50.6	+ 0.4	76	+ 0.6	52	30	30	42	81	5.89	+ 0.3	11	6,669	n.	38	n.	24	24	8	13	6.4	5.7	
Jacksonville.	43	69	84	30.12	30.17	+ .08	55.2	+ 0.0	76	+ 0.6	63	38	38	48	81	8.96	+ 0.7	17	5,863	n.	32	sw.	24	4	11	11	6.9	6.9	
Florida Peninsula.							66.7	+ 2.0	70	+ 0.6	63	50	50	63	81	7.3	+ 0.2	12	7,363	nw.	36	w.	24	6	9	10	6.5	2.4	
Jupiter.	28	13	30	30.08	30.11	+ .00	67.8	+ 2.1	80	+ 0.6	63	48	48	62	81	4.96	+ 2.3	17	8,591	nw.	34	s.	16	6	18	7	5.5	5.7	
Key West.	22	43	50	30.08	30.10	+ .01	70.6	+ 0.9	80	+ 0.6	63	58	58	66	81	4.80	+ 2.0	9	8,769	ne.	38	n.	18	8	17	6	5.2	5.5	
Tampa.	36	60	67	30.09	30.13	+ .01	61.8	+ 3.1	79	+ 0.6	70	42	42	54	82	6.45	+ 4.8	18	5,714	se.	30	w.	18	6	15	10	6.4	T.	
East Gulf States.																													
Atlanta.	1,131	92	126	28.97	30.30	+ .03	42.2	+ 0.8	66	+ 0.6	53	23	23	35	81	3.85	+ 0.2	14	7,363	nn.	36	w.	24	6	9	10	6.5	2.4	
Pensacola.	56	78	90	30.09	30.15	+ .00	51.9	+ 0.6	68	+ 0.6	53	10	11	44	81	2.72	+ 0.1	12	7,888	n.	36	nn.	25	11	8	13	5.6	0.7	
Mobile.	57	88	96	30.09	30.16	+ .01	50.2	+ 0.8	68	+ 0.6	53	27	1	42	81	4.46	+ 0.6	14	5,712	n.	30	nn.	25	11	8	13	5.6	0.7	
Montgomery.	221	100	129	29.76	30.16	+ .01	46.3	+ 2.0	71	+ 0.6	55	15	16	38	81	5.72	+ 2.4	12	4,962	e.	25	nn.	10	6	7	18	6.9	8.5	
Meridian.	375	84	94	.....	.....	.....	46.6	+ 0.4	69	+ 0.5	57	18	31	41	81	5.72	+ 2.0	15	4,546	n.	30	w.	24	2	8	15	6.6	

TABLE I.—*Climatological data for Weather Bureau Stations, January, 1899—Continued.*

Stations.	Elevation of instruments		Temperature of the air, in degrees Fahrenheit.												Precipitation, in inches.		Wind.																
	Barometer above sea level, feet.	Thermometers above ground.	Pressure, in inches.						Departure from normal.						Mean max. and min. + 2.		Departure from normal.		Mean maximum.		Mean minimum.		Greatest daily range.		Mean wet thermometer.		Total movement, miles.		Miles per hour.		Maximum velocity.		
		Anemometer above ground.	Mean actual 8 a.m. and 8 p.m. + 2.	Mean reduced.	Departure from normal.	Mean max. and min. + 2.	Mean max. and min. + 2.	Mean max. and min. + 2.	Mean max. and min. + 2.	Mean max. and min. + 2.	Mean max. and min. + 2.	Mean max. and min. + 2.	Total.	Departure from normal.	Days with .01 or more.	Total movement, miles.	Prevailing direction.	Direction.	Date.	Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness.	Total rainfall.									
<i>Up. Miss. Val.—Con.</i>																																	
St. Paul...	887	114	124	29.09	80.07	— .08	13.7	+ 3.1	41	20	23	— 26	30	5	84	11	8	80	0.57	— .01	8	6,344	nw.	36	nw.	25	14	10	4.5	8.0			
La Crosse...	720	70	78	29.41	80.10	— .04	17.2	+ 2.5	45	18	26	— 24	30	8	84	13	17	78	0.37	— .09	8	5,921	sw.	36	sw.	25	13	12	6	4.8	4.1		
Davenport...	599	71	78	29.14	80.14	— .03	24.0	+ 4.0	48	3	33	— 14	29	15	86	21	17	80	0.31	— 1.4	8	6,306	sw.	37	sw.	25	12	11	5.8	5.0			
Des Moines...	867	84	88	29.14	80.14	— .03	23.8	+ 6.3	51	20	33	— 16	30	14	83	20	17	82	0.29	— 1.0	8	6,516	sw.	27	sw.	25	12	11	5.5	4.5	1.7		
Dubuque...	698	101	109	29.31	80.11	— .01	20.3	+ 3.0	46	4	30	— 18	29	11	77	17	18	76	0.51	— 1.2	6	6,076	nw.	32	nw.	26	16	7	8	4.5	3.1		
Keokuk...	614	64	78	29.44	80.17	— .01	27.8	+ 4.6	54	3	36	— 11	29	19	83	24	18	78	0.49	— 1.2	6	6,434	sw.	36	sw.	26	16	5	13	6.4	7.1		
Cairo...	359	87	93	29.76	80.17	+ .03	34.8	+ 0.1	64	4	42	0	31	31	82	28	28	78	0.46	+ 1.6	11	7,971	s.	54	w.	26	16	5	13	6.5	5.1		
Springfield, Ill...	644	82	92	29.42	80.14	— .01	27.2	+ 1.7	52	4	37	— 9	29	20	74	19	75	1.51	— 0.6	6	7,608	s.	30	nw.	26	16	7	8	5.5	3.1			
Hannibal...	584	75	107	—	—	—	29.0	+ 3.1	54	4	37	— 9	29	21	71	27	28	73	0.56	— 1.0	6	7,367	sw.	36	nw.	26	16	5	13	5.5	3.1		
St. Louis...	567	111	210	29.51	80.16	+ .02	22.6	+ 2.1	61	20	41	— 4	31	25	82	28	28	70	0.55	— 0.5	11	7,938	s.	37	w.	26	16	9	7	15	6.0	2.1	
<i>Missouri Valley.</i>																																	
Columbia...	—	4	84	—	—	—	30.1	+ 0.1	66	23	41	— 14	29	20	85	26	20	69	0.71	— 1.2	7	6,573	s.	37	nw.	26	8	9	14	6.8	5.1		
Kansas City...	963	78	95	29.06	80.14	— .04	30.9	+ 5.5	61	21	40	— 5	29	20	85	26	20	69	0.9	— 0.5	12	5,956	se.	36	se.	26	11	6	13	5.9	3.1		
Springfield, Mo...	1,324	100	103	28.67	80.14	.00	32.0	+ 0.8	62	22	40	— 7	31	24	83	28	23	72	1.94	— 0.5	12	8,554	s.	32	s.	26	11	10	6	4.0	3.1		
Topeka...	81	—	—	—	—	—	30.6	+ 3.8	60	21	40	— 6	29	21	85	25	20	69	0.75	— 0.5	12	9,193	s.	48	n.	26	11	10	6	4.0	3.1		
Lincoln...	1,196	74	84	28.76	80.12	— .08	25.8	+ 8.1	61	21	36	— 14	30	15	84	21	16	71	0.11	— 0.7	5	8,362	s.	36	nw.	26	11	10	6	4.0	3.1		
Omaha...	1,103	92	97	28.87	80.11	— .08	23.1	+ 5.9	58	21	34	— 15	30	16	81	21	16	73	0.07	— 0.6	5	6,998	s.	36	nw.	26	11	10	6	3.7	3.0		
Sioux City...	1,189	94	104	—	—	—	21.1	+ 4.8	57	20	30	— 19	30	13	87	24	20	80	0.08	— 0.7	2	9,791	s.	56	nw.	26	11	10	6	4.1	3.0		
Pierre...	1,572	50	63	28.80	80.09	— .11	18.6	+ 5.9	58	21	30	— 21	30	7	83	18	3	55	0.47	— 0.0	9	7,126	nw.	59	nw.	26	11	10	6	4.7	3.1		
Huron...	1,306	54	67	28.58	80.09	— .13	16.4	+ 9.4	54	20	30	— 24	30	3	47	12	8	80	0.36	— 0.2	4	9,831	s.	48	nw.	26	11	10	6	4.1	3.1		
Yankton...	1,234	52	58	—	—	—	21.4	+ 7.2	58	20	34	— 19	30	9	42	—	—	0.18	— 0.4	8	7,782	w.	39	nw.	26	12	11	8	4.8	2.1			
<i>Northern Slope.</i>							21.2	+ 4.2	58	21	44	— 5	31	17	55	24	21	67	0.78	— 0.1	1	7,782	s.	51	nw.	26	12	11	8	5.5	2.1		
Havre...	2,494	46	47	27.26	80.05	— .10	14.3	+ 4.5	48	20	23	— 21	29	5	40	14	11	84	0.77	— 0.1	10	10,462	sw.	45	sw.	25	7	9	15	6.8	5.7		
Miles City...	2,372	41	49	27.41	80.06	— .12	18.8	+ 8.2	50	20	28	— 17	30	10	87	16	12	81	0.55	— 0.8	12	6,090	w.	39	w.	25	6	12	8	6.0	5.0		
Helena...	4,108	83	93	25.76	80.16	+ .04	22.3	+ 5.2	54	21	30	— 18	34	14	81	19	13	67	1.60	— 0.2	13	5,721	sw.	42	sw.	25	6	12	8	6.0	5.0		
Rapid City...	3,251	46	50	26.51	80.06	— .11	21.2	+ 1.0	57	21	33	— 13	30	9	40	17	10	69	0.38	— 0.0	8	5,605	nw.	36	nw.	25	12	8	11	5.4	2.8		
Cheyenne...	6,084	58	60	28.84	80.14	— .03	25.3	+ 0.3	55	10	26	— 6	31	14	51	45	21	84	1.28	— 0.9	9	11,706	nw.	60	nw.	25	12	8	11	5.4	2.8		
Lander...	5,372	33	36	24.51	80.14	— .07	21.4	+ 4.6	54	21	37	— 16	1	6	53	17	9	63	0.88	— 0.1	8	3,177	sw.	35	w.	25	12	8	11	5.6	2.8		
North Platte...	2,836	48	52	27.03	80.13	— .06	25.5	+ 5.5	62	21	40	— 8	30	11	41	18	11	63	0.11	— 0.1	4	6,593	nw.	46	nw.	25	12	8	11	5.5	1.0		
<i>Middle Slope.</i>							31.0	+ 3.0	68	21	44	— 5	31	17	55	24	21	67	0.39	— 0.5	5	6,593	s.	46	s.	25	12	8	11	5.5	1.0		
Denver...	5,290	74	151	24.60	80.12	— .05	30.4	+ 2.3	58	21	44	— 12	31	12	55	24	21	60	0.46	— 0.1	5	5,165	nw.	42	nw.	25	12	8	11	5.7	4.3		
Pueblo...	4,682	74	81	25.21	80.12	— .06	29.2	+ 0.5	58	21	44	— 12	31	14	47	37	32	74	0.20	— 0.3	5	5,165	nw.	42	nw.	25	12	8	11	5.7	4.3		
Concordia...	1,396	42	47	28.57	80.14	— .06	29.0	+ 5.8	62	21	39	— 8	30	19	36	24	21	78	0.08	— 0.8	1	6,066	s.	28	nw.	25	12	8	11	5.4	3.0		
Dodge...	2,504	44	51	27.39	80.13	— .06	31.6	+ 5.0	61	21	45	— 8	31	14	46	24	19	69	0.04	— 0.4	8	8,052	nw.	41	se.	25	12	8	11	5.4	3.0		
Wichita...	1,351	78	85	28.64	80.14	— .00	31.6	+ 1.0	65	21	41	— 6	31	25	36	27	23	72	0.98	— 0.7	4	7,190	s.	45	n.	25	12	8	11	5.4	3.0		
Oklahoma...	1,318	54	62	28.79	80.14	— .01	35.4	+ 1.8	68	22	46	— 4	31	25	34	31	26	73	1.2	— 0.5	7	8,998	s.	40	n.	25	12	8	11	5.4	3.0		
<i>Southern Slope.</i>							38.1	+ 0.8	72	12	54	— 8	31	21	40	34	26	59	0.51	— 0.4	6	8,120	sw.	89	nw.	25	12	8	11	5.0	0.1		
Abilene...	1,749	45	54	28.25	80.15	— .02	30.4	+ 0.4	72	12	54	— 8	31	21	40	34	26	59	0.51	— 0.4	6	8,120	sw.	89	nw.	25	12	8	11	5.0	0.1		
Amarillo...	3,691	54	61	26.24	80.14	— .01	33.8	+ 1.9	69	15	45	— 8	31	22	42	39	24	74	0.20	— 0.3	5	11,787	n.	72	n.	25	12	8	11	5.2	2.1		
<i>Southern Plateau.</i>							43.3	+ 0.5	70	28	59	— 20	30	20	80	41	17	40	0.06	— 0.5	2	7,806	nw.	51	nw.	25	12	8	11	5.0	2.1		
E.P. ^o ...	3,767	10	110	26.19	80.11	+ .02	44.5	+ 0.0	70	28	59	— 20	30	21	80	41	17	40	0.06	— 0.5	5	5,290	ne.	36	ne.	25	12	8	11	5.0	2.1		
Santa Fe...	6,908	47	50	28.18	80.16	+ .02	26.6	+ 1.3	48	20	36	— 9	24	17	30	21	10	55	0.19	— 0.4	5	5,290	ne.	36	ne.	25	12	8	11	5.0	2.1		
Flagstaff...	6,985	12	25	23.88	80.25	—	25.8	+ 3.8	51	23	40	— 5	19	13	50	—	—	1.83	—	—	5	5,290	ne.	36	ne.	25	12	8					

NOTE.—The data at stations having no departures are not used in computing the district averages. Letters of the alphabet denote number of days missing from the record. *Two or more dates. †Received too late to be considered in departures, etc.

TABLE II.—Climatological record of voluntary and other cooperating observers, January, 1899.

Stations.	Temperature. (Fahrenheit.)			Precipita- tion.		Stations.	Temperature. (Fahrenheit.)			Precipita- tion.		Stations.	Temperature. (Fahrenheit.)			Precipita- tion.		
	Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.		Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.		Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.	
<i>Alabama.</i>	°	°	°	Ins.	Ins.	<i>Arizona—Cont'd.</i>	°	°	°	Ins.	Ins.	<i>California—Cont'd.</i>	°	°	°	Ins.	Ins.	
Alco	74	20	49.6	4.65		Sentinel	°	°	°	0.60		Crescent City	°	°	°	11.06		
Ashville	67	18	42.2	4.93		Signal	88	24	47.8	0.87		Crescent City L. H.	°	°	°	10.23		
Bermuda	71	26	46.6	6.70	3.0	Snowflake	53	8	26.7	0.42	6.0	Cuyamaca	°	°	°	7.02	18.0	
Birmingham	66	21	46.2	5.26		Strawberry	57	—	7	28.6	1.80	18.0	Delano* ¹	70	30	46.5	0.68	
Bridgeport				5.96		Texas Hill* ¹	80	25	50.6	0.15		Delta* ¹	69	25	40.9	8.19	41.0	
Citronelle	69	27	50.5	6.03		Tombstone	67	33	44.5	0.88	T.	Duarte	74	30	50.0	4.32		
Clanton	68	23	44.0	1.75	4.0	Tuba	55	6	27.4	0.04	0.7	Dunnigan* ¹	74	35	58.5	2.20		
Decatur	65	12	41.4	6.36	T.	Tucson	74	20	46.6	0.78		Durham* ¹	75	33	49.0	7.00		
Demopolis				6.69		Walnut Grove				2.30	23.0	East Brother L. H.	75	30	48.3	6.33		
Eufaula ^a	74	25	47.0	6.06	1.0	White Hills	69	18	45.8	0.30		Edmonton* ¹	60	16	35.0	2.95		
Eufaula ^c				5.41	T.	Willcox* ¹	58	18	42.7	0.52		Edmonton* ¹	65	25	52.2	3.43		
Evergreen	72	26	48.0	4.14	3.5	Williams	52	—	1	29.2	1.40	14.0	Escondido	74	21	48.7	3.23	
Florence ^a				6.02	1.0	Yarnell				1.10	13.0	Fallbrook* ¹	80	36	52.6	3.51		
Florence ^b	64	13	40.4	5.96	0.5	<i>Arkansas.</i>	<i>Amity.</i>	65	11	40.3	8.79	1.2	Floriston	74	38	49.8	4.88	
Gadsden	19			4.42	T.	<i>Arkansas City.</i>	<i>Blanchard Springs.</i>	75	14	43.8	3.43		Folsom City* ¹				10.84	87.0
Goodwater	70	20	42.8	5.21		<i>Brinkley.</i>	65	5	41.4	9.90	2.0	Fordyce Dam				9.98		
Greensboro	67	19	44.5	6.44	1.0	<i>Camden.</i>	70	15	42.8	3.66	T.	Fort Bragg				2.57		
Hamilton				6.59	T.	<i>Camden b.</i>	57	1	34.7			Fort Ross	83	35	51.8	20.88		
Healing Springs	73	19	47.2	5.98	3.	<i>Conway.</i>	70	5	40.0	7.04	5.0	Fort Tejon	70	23	44.6	8.59	1.5	
Highland Home	71	27	47.2	6.04	5.	<i>Corning.</i>	63	—	9	35.4	6.69	6.0	Georgetown	91	29	55.5	2.92	
Jasper	58	19		6.10		<i>Dallas.</i>	68	7	39.6	5.14	2.0	Gilroy Hot Springs	91	29	55.5	2.92		
Lock No. 4.	65	20	41.4	8.70	0.8	<i>Dardanelle.</i>				5.88	0.5	Glendora	80	28	50.5	2.35		
Madison Station	66	10	38.4	6.26	T.	<i>Elon.</i>	74	4	44.6	4.48	T.	Goshen* ⁴	70	28	48.8	1.27		
Maplegrove	67	17	41.2	4.53	1.0	<i>Fayetteville.</i>	63	—	2	36.0	3.04	3.2	Grand Island* ⁵	74	33	50.4	4.47	
Marion	66			6.40	4.0	<i>Fulton.</i>	60	—	1	35.8	9.34		Grass Valley	65	11	34.8	10.76	5.5
Mount Willing				6.90		<i>Hardy.</i>	60	—	1	35.8	4.83		Greenville	82	30	49.9	15.33	
Newbern	66	24	46.0	6.73	3.8	<i>Helena a.</i>	71	14	44.0	5.60	1.5	Healdsburg* ¹	91	29	55.5	2.92		
Newburg	63	10	39.8	6.68	T.	<i>Helena b.</i>	71	14	44.0	4.79	1.0	Hill Ranch	80	28	50.5	2.35		
Newton	73	24	46.4	9.37		<i>Hot Springs a.</i>	65	10	40.6	7.19	0.8	Hollister	68	26	45.6	6.33		
Oneonta	64	11	40.8	6.14	T.	<i>Hot Springs b.</i>				7.05		Humboldt L. H.	68	26	45.6	6.33		
Opeilka	66	22	45.0	7.41	3.0	<i>Jonesboro.</i>	64°	8	36.4	8.35	7.0	Irvine	70	29	46.0	6.93	4.0	
OXanna	64	21	42.8	4.36	2.0	<i>Keeses Ferry.</i>	62	—	2	35.5	3.52	3.8	Jackson	88	40	60.7	8.82	
Pineapple	70	25	47.3	8.00	0.5	<i>Lacrosse.</i>	61	—	1	34.4	2.20	T.	Jolon	68	26	45.6	5.20	1.0
Pushmataha	20			7.37	2.5	<i>Lonoke*¹.</i>	65	7	40.1	11.19	7.2	Lagrange* ⁴	70	32	50.6	2.51		
Riverton	63	12	38.9	5.50	0.2	<i>Luna Landing.</i>	62	8	39.8	5.16		Lakeside	65	31	47.8	8.08		
Rockmills	68	22	43.0	6.34	3.5	<i>Mossville.</i>	59	0	38.3	5.16	0	Lamessa	60	12	35.9	12.95	114.1	
Scotsboro	66	19	40.3	6.82	T.	<i>Mount Nebo.</i>	57	—	2	36.0	5.05	0	Laporte* ¹	66	24	48.7	4.43	
Seima	69	25	47.4	5.34	5.0	<i>New Gascony.</i>	68	11	41.8	6.88	1.0	Las Fuentes Ranch	60	12	35.9	12.95	114.1	
Sturdevant				5.71	7.0	<i>Newport a.</i>	67	3	38.4			Lemoncove* ¹	73	30	49.4	8.97		
Talladega	67	21	44.0	3.84	0.2	<i>Newport b.</i>	65	—	3	36.4	4.39	4.5	Lemoore* ¹	68	28	46.4	0.76	
Tallassee				6.62	2.0	<i>Oregon.</i>	62	0	33.6			Lick Observatory	65	24	49.5	5.03	19.9	
Thomasville	70	21	45.9	1.77	6.0	<i>Osceola.</i>	64	4	38.1	8.26	8.0	Lime Point L. H.	67	31	48.9	3.42		
Tuscaloosa	66	20	42.9	8.14		<i>Ozark.</i>	62	8	38.8	8.73	2.0	Lodi	67	31	48.9	3.42		
Union	81	21	49.6	8.55		<i>Picayune.</i>	69	5	41.2	7.41		Los Alamos				3.12		
Union Springs	72	25	45.0	6.85	3.5	<i>Pinebluff.</i>	70	13	48.3	7.38	1.0	Los Gatos ^b	72	35	50.0	7.82		
Uniontown	70	26	47.4	6.05	3.8	<i>Pocahontas.</i>	61	0	34.6	6.79		Malakoff Mine	77	20	43.6	10.88	36.0	
Valleyhead	62	15	40.2	5.48		<i>Pond.</i>	60	—	3	34.6	3.59	3.8	Mammoth Tank* ¹	80	35	54.6	0.01	T.
Warrior				8.10		<i>Powell.</i>	67	15	42.9	8.40	0.5	Mare Island L. H.	73	26	45.8	3.61		
Wetumpka	68	35	46.8	6.85	3.0	<i>Rison.</i>	71	13	41.9	5.91	0.5	Mered ¹	69	38	49.6	2.18		
Wilson ^a	72	26	50.4	5.44	T.	<i>Silver Springs.</i>	68	—	2	35.5	2.25	2.6	Mills College				4.49	
Wilsonville				8.45	0.3	<i>Spielerville.</i>	65	—	1	38.1	5.03	2.5	Milo	67	32	48.0	4.65	
<i>Alaska.</i>				0.34		<i>Stamps.</i>	70	19	43.2	6.23	T.	Milton (near)* ¹	66	32	48.0	2.88		
Allaire Ranch				1.05		<i>Stuttgart.</i>	67	8	40.4	7.98	2.3	Modesto* ¹	80	34	51.2	2.51		
Arizona Canal Co. Dam	74	28	50.9			<i>Texarkana.</i>	70	14	47.2	5.90	0.5	Mohave* ¹	70	25	45.9	0.37		
Aztec				0.03		<i>Washington.</i>	74	15	43.2	4.89	0.5	Mokelumne Hill* ³	70	30	44.0	4.52		
Bisbee	67	26	44.0	0.52	T.	<i>Wigges*¹.</i>	63	8	41.9	7.90	3.5	Monterey* ¹	73	31	53.8	2.79		
Blaisdell* ⁶	82	28	55.4	0.02		<i>Winslow.</i>	59	—	1	32.1	1.58	3.0	Morena Dam				3.73	
Buckeye	79	22	52.4	1.50		<i>Witts Springs.</i>	59	—	3	34.8	4.57	2.8	Mountain View				3.15	
Casa Grande* ¹	71	32	56.0	0.90		<i>California.</i>	80	30	51.8	2.59		Mount Frazier				1.97	17.5	
Champie Camp	76	28	51.4	2.00	6.0	<i>Agnew.</i>	70	18	39.5	18.03	17.0	Multah Flat				2.30		
Congress	69	33	49.6	2.03		<i>Anada.</i>	80	29	52.8	2.09		Napa b.	88	32	51.8	6.17		
Dragoon				1.68		<i>Arlington Heights.</i>	80	29	52.8	2.09		Needles	73	39	54.5	0.58		
Dragon Summit* ⁶	65	25	50.2	1.03		<i>Azusa.</i>						Nevada City	73	21	42.9	9.12	10.0	
Dudleyville	71	22	46.1	1.60		<i>Ballast Point L. H.</i>						Newhall* ¹	80	23	49.7	2.77		
Fort Apache	59	6	31.2	1.88		<i>Bear Valley.</i>	77	36	51.6	5.90		North Ontario	76	29	50.8	2.88		
Fort Defiance	45	-12	20.0	0.80	8.0	<i>Berkeley.</i>	73	—	2	35.5	2.50		North San Juan* ¹	80	26	44.7	10.35	2.0
Fort Grant	77	22	46.6	0.74		<i>Bishop.</i>	77	38	51.6	5.90		Oakland a.	77	36	50.4	5.59		
Fort Huachua	67	20	43.5	0.52		<i>Blue Lakes City.</i>	73	24	47.1	8.85		Ogilby* ¹	75	30	50.4	0.00		
Fort Mohave	81	22	49.6	0.95		<i>Boca*¹.</i>	53	—	2	25.5	6.80	6.80	Oleta* ¹	71	27	44.3	5.29	
Gilabend* ¹	73	32	50.2	0.80		<i>Bodie*¹.</i>	44	-17	21.2	8.21	29.0	Orland* ¹	78	33	50.0	6.98		
Holbrook	48	1	32.0	0.40	4.0	<i>Bowmans Dam*¹.</i>	61	11	35.3	14.11	83							

TABLE II.—Climatological record of voluntary and other cooperating observers—Continued.

Stations.	Temperature. (Fahrenheit.)			Precipita- tion.		Stations.	Temperature. (Fahrenheit.)			Precipita- tion.		Stations.	Temperature. (Fahrenheit.)			Precipita- tion.		
	Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.		Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.		Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.	
California—Cont'd.	°	°	°	In.	In.	Colorado—Cont'd.	°	°	°	In.	In.	Florida—Cont'd.	°	°	°	In.	In.	
Point Lobos	74	40	51.2	4.93		Holyoke	62	-12	26.6	0.45	4.5	Lake Butler	80	36	56.6	4.85		
Point Loma L. H.	.....	.....	.....	1.82		Holyoke (near)	62	.....	26.6	0.32	5.0	Lake City	81	36	56.3	4.18	
Point Montara L. H.	.....	.....	.....	6.20		Hugo	.....	.....	27.0	0.79	10.0	Lakemont	85	41	65.0	4.08	
Point Pinos L. H.	.....	.....	.....	4.95		Husted	56	-9	27.0	0.83	4.5	Lemon City	88	48	69.6	3.30	
Point Sur L. H.	.....	.....	.....	4.83		Lake Moraine	41	-5	18.0	0.85	19.2	Liveoak	85	.....	5.69		
Pomona (near)	79	31	53.8	2.79		Lamar	57	-12	28.8	0.27	4.0	Macclellany	81	34	54.5	4.59		
Poway*	78	29	47.0	2.98		Laporte	.....	.....	.....	0.89	13.0	Manatee	88	42	62.3	5.34	
Quincy	50	15	34.3	8.75	45.0	Las Animas	58	-12	27.4	0.48	6.0	Merrits Island	79	46	62.0	5.60		
Ranch House	81	38	57.8	3.10		Leadville (near)* ¹	85	-5	17.6	2.98	61.2	Myers	82	43	65.0	5.21		
Redding b	75	25	45.6	9.66	25.0	Leroy	68	-8	29.1	0.50	7.2	New Smyrna	80	39	58.6	4.33		
Redlands	82	32	58.4	1.92		Longs Peak	46	-7	21.6	0.64	7.2	Ocala	83	35	58.9	5.63		
Repsa	78	29	49.4	5.41		Loveland	.....	.....	.....	0.80	12.0	Orange City	83	36	60.6	4.08	
Rio Vista	76	31	49.8	4.21		Mancos	44	-8	21.2	0.71	9.5	Orange Park	78	37	54.8	2.60		
Roe Island L. H.	.....	.....	.....	3.09		Meeker	52	-20	21.5	0.90	13.2	Orlando	81	42	61.4	5.04	
Rosewood	76	20	48.0	9.51	21.0	Minneapolis	60	-18	30.2	0.19	4.0	Plant City	83	40	63.2	5.17		
Sacramento a	72	31	48.3	4.44		Moraine	44	4	23.4	0.77	12.0	St. Andrews	73	30	53.4 ^a	4.38		
Salinas*	72	27	50.6	3.94		Pagoda	50	-17	21.4	2.04	25.0	St. Francis	82	35	59.2	4.09		
Salton*	87	29	51.9	0.90		Parachute	50	-3	26.4	0.96	15.0	St. Francis Barracks	79	40	56.0	2.70		
San Bernardino	81	25	52.7	2.03		Perry Park	.....	.....	.....	0.26	3.8	Sebastian	80	46	64.8	6.30	
San Leandro*	87	38	56.5	3.68		Rangely	40	-20	15.0	0.15	2.5	Switzerland*	79	37	54.5	2.77		
San Luis L. H.	.....	.....	.....	3.89		Rockyford	61	-20	27.4	0.98	18.0	Tallahassee	74	32	53.7	3.54	
San Mateo*	73	27	51.6	4.21		Ruby	.....	.....	.....	0.19	78.0	Tarpon Springs	82	41	61.6	4.46	
San Miguel*	71	28	46.6	3.09		Saguache	38	-23	11.4	0.28	3.5	Wausau	78	28	52.0	3.55		
San Miguel Island	76	37	58.4	4.25		Salida	54	-9	27.2	0.02	0.5	Georgia	.....	.....	.....	.....
Santa Barbara a	78	37	54.8	4.48		San Luis	41	-21	14.0	0.08	1.9	Adairsville	82	19	40.4	3.55	1.5	
Santa Barbara L. H.	.....	.....	.....	4.41		Santa Clara*	51	4	26.7	0.73	11.0	Albany	77	27	50.4	6.70	
Santa Clara a	.....	.....	.....	2.68		Seguro	45	-9	17.9	0.35	5.0	Allentown	73	25	47.5	6.38	T.
Santa Cruz b	81	31	51.8	7.27		Selbert	.....	.....	.....	0.71	9.5	Americus	74 ^d	26 ^d	47.9 ^d	6.05	T.
Santa Cruz L. H.	.....	.....	.....	6.88		Smoky Hill Mine	54	-2	24.8	1.20	18.0	Bellville	76	26	47.2	5.92	
Santa Maria	82	34	55.0	3.49		Springfield	.....	.....	.....	0.25	5.0	Blakely	75	31	50.0	6.14	
Santa Monica*	78	35	58.7	4.08		Stamford*	44	-8	17.3	0.57	11.5	Canton	66	17	42.2	4.00	3.0	
Santa Paula	79	32	51.4	3.44		Strickler Tunnel	.....	.....	.....	1.99	37.8	Cartersville	64 ^e	18 ^e	41.2 ^e	8.22	2.0
Santa Rosa*	74	31	52.8	8.77		Trinidad	.....	.....	.....	0.64	7.5	Cedartown	64	20	40.9	5.31	3.0
Shasta	76	19	45.7	12.42	47.0	Troutvale	45	-85	8.4	0.62	11.0	Clayton	61	17	40.9	4.03	1.3	
Sierra Madre	76	36	58.6	3.21		T. S. Ranch	50	4	23.3	0.29	3.9	Covington	68	20	41.0	8.06	1.5	
Sneddens Ranch	.....	.....	.....	2.65		Vilas	42	-24	9.2	0.10	2.0	Crescent	65	30	45.0	4.92	
Sonoma	.....	.....	.....	7.76		Wagon Wheel	50	-18	18.8	1.17	19.3	Dahlonega	65	16	40.6	4.84	2.0
S. E. Farrallone L. H.	.....	.....	.....	6.73		Waliden	48	-4	23.3	0.25	4.5	Diamond	60	15	39.1	4.03	1.3
Stanford University	74	30	50.2	0.68		Westcliffe	46	-4	23.3	0.25	4.5	Dublin	.....	.....	.....	5.98	
Stockton a	68	30	48.3	3.15		Wray	60	-10	26.5	0.63	8.0	Elberton	66	23	43.4	7.01	2.5	
Summerdale	56	14	36.0	7.96	41.0	Yuma	.....	.....	.....	1.38	21.0	Fitzgerald	75	27	49.2	6.05	
Susanville	53	13	33.1	2.90	39.0	Connecticut	.....	.....	.....	.....	.....	Fleming	78	26	50.4	4.10	
Sutter Creek*	63	22	40.1	3.47		Bridgeport	53	-8	27.9	4.45	5.4	Fort Gaines	73	24	45.4	9.98		
Tehama*	76	34	50.6	6.11		Canton	53	-14	23.8	3.17	1.0	Franklin	67	24	45.4	6.35	1.0	
Tejon Ranch	72	32	49.8	1.05		Colchester	50	-8	28.2	4.61	6.2	Gainesville	72	21	41.3	4.11	3.0	
Templeton*	78	26	48.0	4.23		Falls Village	.....	.....	.....	3.20	6.8	Greenbush	63	16	39.6	3.77	T.
Thermalito	76	33	49.5	6.34		Greenfield Hill	.....	.....	.....	4.48	7.7	Griffin	69	22	45.9	.....	
Trinidad L. H.	.....	.....	.....	7.19		Hartford a	45	-10	24.2	4.57	4.8	Harrison	72	24	45.9	5.74	2.5
Truckee*	48	0	30.1	7.80	78.0	Hartford b	50	-11	25.8	5.16	7.0	Hephzibah*	73	20	47.6	4.50	2.0	
Tulare b	.....	.....	.....	1.08		Hawleyville	50	-11	25.8	3.70	8.0	Jesup	79	28	49.4	3.70	
Tulare c	78	26	46.4	0.92		Lake Konomoc	50	.....	.....	5.14	.....	Lagrange	68	23	45.2	3.88	6.5
Ukiah	77	28	46.8	10.54		Middleton	51	-8	28.0	4.96	7.8	Lumpkin	71	26	46.9	6.23	1.0	
Upperlake	84	29	47.0	8.16		New London	53	-3	28.3	4.03	8.4	Marietta	64	20	41.1	4.25	1.7	
Vacaville*	78	34	51.6	7.11		North Grosvenor Dale	50	-18	27.8	4.51	.....	Marshallville	74	27	44.9	6.22	1.0
Ventura	82	29	51.4	4.89		Northwalk	51	-15	26.0	4.28	6.0	Manzy	78	28	59.2	3.57		
Visalia*	78	24	44.9	1.54		Pomfret	51	-8	26.0	4.60	5.9	Millen	78	27	47.0	5.01	T.	
Volcanic Springs*	82	30	53.6	0.00		Southington	51	-10	26.6	4.03	6.0	Morgan	74	25	47.4	6.92	T.	
Walnut Creek	80	32	53.7	4.04		South Manchester	.....	.....	.....	2.57	7.0	Mount Vernon	73	28	48.0	6.70	
West Palmdale*	73	33	44.5	1.00	7.0	Storms	50	-11	24.8	3.76	8.0	Newman	20	.....	7.69	.....	
Westpoint	.....	.....	.....	6.06		Voluntown	52	-7	27.8	3.86	6.0	Pelham	.....	.....	4.39	.....	
West Satcooy	.....	.....	.....	3.93		Wallingford	.....	.....	.....	5.02	.....	Piscata	75	33	52.4	3.20	
Wheatland	72	29	47.0	4.38		Waterbury	53	-15	25.0	3.82	3.8	Point Peter	68	20	40.5	7.25	3.0	
Williams*	73	36	51.0	4.77		West Cornwall	48	-8	22.8	3.47	8.2	Poulain	76	26	48.6	6.68		
Wilmington*	80	40	58.6	3.31		West Simsbury	.....	.....	.....	3.36	5.0	Putnam	66 ^f	26 ^f	45.0 ^f	5.98	4.0
Wire Bridge*	75	27	46.8	6.32		Winsted*	48	-18	23.4	.....	.....	Quitman	77	29	51.1	5.39	
Yerba Buena L. H.	.....	.....	.....	3.05		Delaware	.....	.....	.....	.....	.....	Ramey	66	15	44.2	3.15	T.
Yreka	59	18	36.5	2.75	.....	Milford	65	6	39.2	3.81	.....	Resaca	.....	.....	3.98	0.6	
Yuba City*	75	34	52.6	5.07	.....	Millsboro	63	7	35.4	3.00	.....	Reynolds	.....	.....	5.20	6.0	
Colorado	Antlers	45	2	28.6	1.13	17.4	Newark	64	-1	30.2	3.89	9.5	Rome	64	21	40.8	8.41	1.5
Arkins	.....	.....	.....	0.63	11.8	Seaford	63	4	36.0	3.17	6.0	Talbotton	76	25	44.7	6.12	3.5
Boulder	56	-3	31.6	0.87	13.0	District of Columbia	.....	.....	.....	.....	.....	Tallepoosa	66	15	41.6	3.93	2.5
Boxelder	.....	.....	.....	1.27	17.0	Distributing Reservoir*	52	0	33.3	3.41	.....	Thomasville	75	30	50.5	3.49	
Breckenridge	42	-21	11.8	4.75	80.2	Receiving Reservoir*	54	0	32.8	3.37	.....	Toccoa	64	21	41.6	6.87	2.0</td

TABLE II.—Climatological record of voluntary and other cooperating observers—Continued.

Stations.	Temperature. (Fahrenheit.)			Precipita- tion.		Stations.	Temperature. (Fahrenheit.)			Precipita- tion.		Stations.	Temperature. (Fahrenheit.)			Precipita- tion.		
	Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.		Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.		Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.	
<i>Idaho—Cont'd.</i>																		
Paris	°	°	°	Ins.	Ins.	<i>Illinois—Cont'd.</i>	°	°	°	Ins.	Ins.	<i>Iowa—Cont'd.</i>	°	°	°	Ins.	Ins.	
Paris	45	-5	24.4	0.84	11.2	Winnebago	46	-18	20.5	0.58	4.0	Denison	48	-19	17.8	0.05	0.5	
Payette	53	10	34.0	1.90	10.5	Indiana	55	-8	28.4	3.23	5.8	Desoto	53	-17	23.3	0.10	1.2	
Pollock	55	5	27.8	1.27	2.5	Anderson	51	-11	28.6	3.00	8.7	Dows	42	-23	16.6	0.23	1.5	
St. Maries	51	-16	29.6	5.48	31.2	Angola	52	-10	24.5	2.03	3.0	Eldon	45	-23	17.3	0.10	T.	
Soldier	50	-5	26.2	1.91	21.0	Auburn	57	-7	29.0	2.49	5.3	Eldora	48	-23	17.3	0.44	4.0	
Swan Valley	46	-8	25.7	1.61	21.1	Bedford	60	-4	31.2	4.06	3.0	Estherville	35	-27	10.8	0.02	T.	
Weston	48	-8	29.9	1.32	11.0	Bloomington	54	-11	27.1	2.60	4.5	Fairfield	63	-15	25.2	0.28	1.0	
Yellow Jacket	.....	.....	1.67	.....	.....	Bluffton	58	-6	32.0	2.54	3.2	Fayette	41	-23	17.5	0.41	3.0
<i>Illinois.</i>						Booneville	59	0	29.5	4.10	4.0	Forest City	40	-23	15.3	0.22	2.0	
Albion	59	-5	31.8	4.42	2.5	Bright	59	0	29.5	4.10	4.0	Fort Madison	49	-19	20.4	0.15	1.5	
Alexander	53	-11	28.0	0.96	5.5	Butterville	53	-2	31.2	4.67	6.4	Garden Grove	49	-17	24.9	0.20	0.5	
Ashton	45	-17	21.2	0.48	2.7	Cambridge City	56	-7	28.9	3.42	1.7	Glendale	57	-15	24.9	T.	T.	
Astoria	49	-11	26.0	0.89	5.8	Columbus City ¹	50	-8	24.9	2.70	6.5	Grand Meadow ¹	38	-25	15.9	0.62	4.2	
Atwood ^a	56	-15	23.9	.....	.....	Connersville	58	-5	30.6	3.31	1.0	Greene	40	-20	15.8	0.32	2.5
Aurora a	48	-15	22.7	0.55	1.0	Crawfordsville	59	-10	26.4	.....	.....	Greenfield	49	-19	22.0	0.49	1.1
Aurora b	46	-14	22.3	0.72	2.0	Delphi	56	-11	26.0	2.61	7.2	Grinnell	45	-21	17.8	0.58	1.2	
Bloomington	50	-13	25.6	1.52	2.0	Edwardsville ¹	61	0	34.1	4.78	7.7	Grundy Center	45	-21	17.8	0.21	0.5	
Bushnell	48	-13	25.6	0.66	2.0	Farmland	55	-7	27.7	3.85	6.7	Guthrie Center	49	-17	19.8	T.	T.	
Cambridge	46	-13	23.2	0.29	2.2	Fort Wayne	53	-8	26.0	2.34	4.5	Hawkeye	42	-21	15.8	0.27	1.5	
Carlinvile	56	-8	29.8	1.79	7.8	Franklin ¹	56	-8	30.8	3.32	2.0	Hopewell	45	-14	20.1	0.05	0.5	
Carlyle	.....	.....	2.79	4.5	Greensburg	54	-10	28.5	3.93	3.1	Humboldt	44	-21	18.7	T.	T.	
Carrollton	52	-8	28.4	1.85	4.8	Hammond	44	-13	23.5	0.55	4.0	Independence ¹	21	-16.2	6.4	0.46	3.1	
Charleston	55	-10	27.6	2.97	4.8	Lafayette	54	-14	25.6	2.42	6.2	Indianola	47	-17	23.1	0.13	2.8	
Chemung	44	-20	18.6	0.76	5.0	Laporte	50	-10	23.2	2.06	5.7	Iowa City a	48	-18	22.0	0.59	3.0	
Chester	.....	.....	2.60	4.0	Logansport ^b	53	-8	25.5	2.30	4.5	Iowa Falls	42	-21	16.9	0.10	T.	
Cline	62	-5	31.6	3.54	2.5	Madison	60	8	33.2	4.18	7.0	Kenosha	53	-13	26.0	0.06	1.5	
Cobden	63	-6	38.1	5.76	8.8	Marengo	60	-5	32.4	5.17	9.3	Knoxville	57	-15	23.1	T.	T.	
Danville	55	-10	27.9	2.68	7.5	Marion	54	-11	27.1	3.13	6.0	Lamoni	49	-16	23.6	0.57	4.0	
Decatur	56	-12	27.4	1.89	8.3	Markle	53	-6	27.5	2.90	6.0	Lansing	46	-22	18.6	0.53	4.5	
Dixon	48	-16	21.7	0.80	1.0	Mauzy	55	-7	29.2	3.59	4.0	Larchwood	47	-22	17.5	0.17	1.8	
Dwight	49	-14	22.6	0.80	1.8	Mount Vernon	62	-7	32.4	4.84	6.1	Larrabee	47	-22	17.5	0.12	0.9	
Effingham	57	-7	30.7	3.03	5.5	Northfield	55	-10	27.4	2.95	5.0	Lemars	51	-20	20.2	T.	T.	
Elgin	46	-15	21.6	0.57	3.8	Paoli	58	-2	31.6	3.56	6.8	Lenox	47	-18	22.7	0.24	1.5	
Equality	62	-3	34.8	5.79	6.0	Peru	57	-8	28.8	3.00	1.0	Logan	47	-15	18.3	0.10	1.0	
Flora	61	-5	31.4	2.94	1.7	Princeton	59	-3	31.4	.....	.....	Maquoketa	47	-16	21.9	0.24	2.8
Fort Sheridan	40	-15	20.0	0.59	0.6	Richmond	57	-3	28.9	3.24	1.0	Mason City	45	-24	18.6	T.	T.	
Friendgrove	.....	.....	4.90	1.6	Rockville	56	-11	27.8	2.33	5.0	Monticello	47	-18	19.7	0.47	2.8	
Galva	47	-18	22.4	0.24	2.0	Scottsburg	60	0	33.0	3.43	6.5	Moar	50	-14	26.2	T.	T.	
Glenwood ¹	48	-15	24.3	0.88	6.0	Seymour	59	-2	30.4	5.15	10.0	Mountay	49	-16	23.4	0.55	4.5	
Grafton	.....	.....	1.12	2.0	Shelbyville	52	-12	25.1	2.01	5.5	Mount Pleasant	53	-15	25.8	0.08	....	
Grayville	60	0	34.2	4.37	4.0	South Bend	52	-13	25.1	2.01	5.5	Mount Vernon a ¹	46	-20	20.3	.....	....
Greenville	55	-7	29.6	2.48	.....	Syracuse	52	-13	25.1	2.67	7.8	Neola	45	-16	19.2	.....	....
Griggsville	53	-11	27.5	0.42	1.7	Terre Haute	56	-6	29.4	2.91	3.8	New Hampton	39	-23	15.8	0.48	4.0	
Halfway	60	-4	32.8	4.46	4.0	Topeka	50	-9	33.6	0.99	2.2	Newton	39	-23	20.8	0.86	6.2	
Halliday ^a	62	-5	32.8	3.59	2.0	Valparaiso	52	-14	31.4	.....	.....	North McGregor	40	-23	14.3	0.39	7.0
Havana	52	-6	29.2	0.77	4.0	Vevay	61	4	32.2	4.00	10.0	Northwood	40	-23	19.2	0.00	0.0	
Henry	50	-15	24.4	0.88	.....	Vincennes	60	-2	31.2	3.62	2.0	Odebolt	49	-19	19.2	0.05	0.5
Joliet	48	-12	23.2	0.88	2.1	Washington	65	-4	33.0	3.97	3.0	Orden	48	-19	20.5	0.11	1.0	
Kankakee a	48	-12	28.1	1.20	1.3	Washington	65	-4	33.0	3.97	3.0	Olin	47	-17	19.5	0.89	2.0	
Kishwaukee	18	-8	0.43	1.7	Winamac	54	-2	26.5	2.49	2.0	Osage ²	45	-26	15.6	0.41	3.0		
Knoxville	48	-20	22.6	0.42	2.2	Worthington ¹	58	-5	30.0	3.99	3.1	Osecola	49	-15	21.0	0.48	3.5	
Lagrange	48	-13	22.6	0.37	2.0	Indian Territory.	Healdton	67	1	40.0	1.60	2.0	Oskaloosa ¹	51	-15	22.8	0.49	3.8
Laharpe	56	-12	26.0	0.85	2.0	Kemp ¹	69	8	40.0	2.30	3.0	Ottumwa	54	-12	25.8	0.25	0.5	
Lanark	44	-31	19.8	0.27	1.0	Lehigh	65	-1	38.7	3.11	2.0	Ovid	51	-16	23.2	0.50	3.0	
Loam	50	-14	28.4	0.98	3.5	South McAlester	58	-1	38.7	3.11	2.0	Parnell	56	-16	25.6	T.	T.	
McLeansboro	60	-4	32.8	4.96	4.0	Tahlequah	58	-1	38.7	3.11	2.0	Pella	44	-17	16.2	0.32	2.0	
Martinsville	57	-7	30.0	1.80	2.2	Tulsa	52	-18	28.8	0.26	1.5	Plover	45	-21	17.8	0.80	T.	
Martinton	51	-13	24.5	1.37	2.0	Wagoner	57	-5	30.8	1.76	2.8	Pringhar	45	-24	17.5	0.00	0.0	
Mascoutah	60	-5	31.6	2.70	5.2	Webbers Falls	58	-1	38.7	2.34	1.1	Redoak	58	-13	24.8	0.15	....
Mattoon	56	-6	28.5	2.28	4.5	Iowa.	49	-16	23.5	0.40	2.0	Ridgway	42	-25	16.6	1.05	4.2	
Minonk	50	-14	28.4	0.50	3.2	Atlantic	49	-16	23.1	T.	T.	Rock Rapids	44	-25	18.8	.....	....
Mounmouth	48	-16	28.6	0.87	3.0	Audubon	47	-17	20.6	0.71	5.5	Rockwell City	47	-20	17.6	0.04	0.4	
Morgan Park ⁴	44	-14	24.8	0.29	.....	Bedford	52	-18	28.8	0.26	1.5	Ruthven	40	-24	16.4	T.	T.
Morrisonville	54	-12	27.2	1.94	2.3	Belknap	54	-14	24.4	0.50	2.0	Sac City	47	-19	18.4	0.04	0.5	
Mount Carmel	.....	.....	4.98	7.1	Belleplaine	47	-19	19.3	0.82	5.5	Sibley	46	-24	16.6	0.20	0.5	
Mount Pulaski	53	-11	26.8	1.21	10.0	Britt	51	-15	25.0	0.05	0.5	Sidney	53	-16	23.0	0.17	1.0	
Mount Vernon	60	-5	30.4	3.26	4.0	Burlington ¹	47	-20	24.6	0.71	5.5	Sigourney	51	-18	23.0	0.25	2.0	
New Burnside	61	-4	34.2	5.86	8.0	Charles City	49	-21	18.2	T.	T.	Spencer	45	-24	15.2	0.06	0.4	
Olney	61	-5	31.2	3.98	5.5	Clarinda	51	-17	23.4	0.24	2.0	Spirit Lake	43	-25	1			

TABLE II.—Climatological record of voluntary and other cooperating observers—Continued.

TABLE II.—*Climatological record of voluntary and other cooperating observers*—Continued.

Stations.	Temperature. (Fahrenheit.)			Precipita- tion.			Stations.	Temperature. (Fahrenheit.)			Precipita- tion.			Stations.	Temperature. (Fahrenheit.)			Precipita- tion.					
	Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.	Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.	Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.	Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.			
Michigan—Cont'd.	o	o	o	Ins.	Ins.	Minnesota—Cont'd.	o	c	o	Ins.	Ins.	Mississippi—Cont'd.	o	o	o	Ins.	Ins.	Mississippi—Cont'd.	o	o	o	Ins.	Ins.
Big Rapids	44	-23	17.9	1.84	9.7	Beardsley	45	-25	14.0	0.98	.....	Water Valley *1	68	14	40.9	7.35	1.1	Water Valley *1	68	14	40.9	7.35	1.1
Birmingham	49	-13	22.7	1.74	4.0	Bird Island	45	-22	13.0	0.60	0.3	Waynesboro	73	21	49.3	5.16	4.0	Waynesboro	73	21	49.3	5.16	4.0
Boon	43	-28	15.0	2.65	19.1	Blooming Prairie	36	-27	11.8	0.85	3.5	Woodville	74	20	48.4	9.73	0.5	Woodville	74	20	48.4	9.73	0.5
Calumet	45	-13	18.6	2.61	30.5	Brainerd	40	-35	4.4	0.20	.....	Yazoo City	74	17	44.7	8.36	T.	Yazoo City	74	17	44.7	8.36	T.
Camden	53	-16	23.8	2.13	4.5	Caledonia	39	-27	14.2	0.41	2.8	Missouri	.....	.....	.....	.....	.....	Missouri	.....	.....	.....	.....	.....
Carsonville	53	-13	21.6	2.26	7.0	Collegeville	42	-26	14.0	0.83	3.0	Appleton City	66	-6	31.7	0.66	5.9	Appleton City	66	-6	31.7	0.66	5.9
Charlevoix	42	-5	20.4	2.11	20.0	Crookston	43	-26	3.4	0.50	6.0	Arthur *3	.....	.....	.....	.....	.....	Arthur *3	.....	.....	.....	.....	.....
Cheboygan	41	-19	16.3	1.48	9.2	Deephaven	45	-26	0.79	.....	.....	Avalon	55	-16	28.0	0.50	1.5	Avalon	55	-16	28.0	0.50	1.5
Clinton	51	-15	23.6	1.70	1.5	Detroit City	43	-42	-0.4	1.00	.....	Bethany	52	-17	24.4	0.55	8.0	Bethany	52	-17	24.4	0.55	8.0
Coldwater	52	-13	24.0	2.88	8.0	Farmington	40	-31	11.8	0.90	9.0	Birchtree	57	-7	31.7	2.52	4.0	Birchtree	57	-7	31.7	2.52	4.0
East Tawas	42	-12	19.3	.....	.....	Fergus Falls	42	-29	7.8	0.62	6.0	Boonville	.....	.....	.....	.....	.....	Boonville	.....	.....	.....	.....	.....
Eloise	54	-10	24.0	1.56	3.5	Glencoe	45	-26	11.3	0.59	.....	Brunswick	56	-12	27.8	0.65	2.0	Brunswick	56	-12	27.8	0.65	2.0
Ewen	39	-39	8.1	1.70	17.0	Glenwood	43	-26	10.2	1.48	4.5	Carrollton	58	-9	30.4	0.71	2.1	Carrollton	58	-9	30.4	0.71	2.1
Fairview	50	-11	21.5	1.51	5.5	Grand Meadow	38	-27	9.5	0.19	4.0	Conception	55	-14	28.2	0.59	5.0	Conception	55	-14	28.2	0.59	5.0
Fitchburg	48	-12	22.4	1.95	9.3	Lake City	42	-27	14.3	0.48	2.5	Coot Station	.....	.....	.....	.....	.....	Coot Station	.....	.....	.....	.....	.....
Flint	50	-12	21.7	1.84	4.5	Lake Jennie	43	-25	12.8	0.42	2.0	Cowgill *6	56	-14	28.0	0.31	1.5	Cowgill *6	56	-14	28.0	0.31	1.5
Frankfort	43	-3	22.4	0.95	9.3	Lakeside	45	-23	13.0	0.64	2.2	Darksville	54	-12	27.0	0.10	0.5	Darksville	54	-12	27.0	0.10	0.5
Gladwin	42	-17	18.1	1.50	8.0	Lake Winnibigoshish	87	-45	0.7	0.57	5.8	East Lynne *3	58	-8	29.8	0.65	6.0	East Lynne *3	58	-8	29.8	0.65	6.0
Grand Rapids	38	-20	21.4	2.56	30.0	Leech Lake	41	-32	0.1	0.79	8.1	Eightmile *	58	-2	30.0	2.46	2.8	Eightmile *	58	-2	30.0	2.46	2.8
Grape	53	-10	25.0	1.98	5.2	Long Prairie	40	-32	8.6	0.73	6.0	Elton	66	-4	29.5	0.46	4.1	Elton	66	-4	29.5	0.46	4.1
Grayling	48	-21	15.1	1.15	9.0	Lynd	46	-29	16.0	0.97	5.4	Elmira	66	-17	27.0	0.01	T.	Elmira	66	-17	27.0	0.01	T.
Hanover	51	-14	22.2	2.12	6.2	Mapleplain	.....	.....	.....	.....	.....	Fairport	.....	.....	.....	.....	.....	Fairport	.....	.....	.....	.....	.....
Harrison	41	-19	16.2	0.94	8.0	Milaca	42	-36	5.1	0.45	4.5	Farmersville	.....	.....	.....	.....	.....	Farmersville	.....	.....	.....	.....	.....
Harrisville	46	-16	17.8	1.40	8.2	Milan	47	-26	12.3	1.00	5.0	Fayette	61	-14	28.6	0.59	4.0	Fayette	61	-14	28.6	0.59	4.0
Hart	44	-4	22.3	1.65	8.5	Minneapolis a	40	-31	10.6	0.81	7.5	Fulton	.....	.....	.....	.....	.....	Fulton	.....	.....	.....	.....	.....
Hastings	47	-21	20.6	2.27	8.3	Minneapolis b	40*	-30	12.0	0.86	7.7	Galena	54	-8	28.1	0.37	1.5	Galena	54	-8	28.1	0.37	1.5
Hayes	48	-10	22.0	0.90	2.3	Minnesota City *1	42	-30	14.8	1.04	8.0	Gallatin *1	61	1	38.0	8.28	10.5	Gallatin *1	61	1	38.0	8.28	10.5
Highland Station	51	-14	23.2	2.44	4.2	Montevideo	46	-25	13.1	0.90	2.0	Gayoso	63	-18	29.5	0.65	5.0	Gayoso	63	-18	29.5	0.65	5.0
Hillsdale	51	-14	23.2	2.44	4.2	Morris	42	-23	11.2	0.36	2.5	Gordonville **3	.....	.....	.....	.....	.....	Gordonville **3	.....	.....	.....	.....	.....
Holland *9	42	-3	25.7	.....	.....	Mount Iron	34	-41	2.6	0.24	2.4	Gorin	.....	.....	.....	.....	.....	Gorin	.....	.....	.....	.....	.....
Howell	48	-13	23.6	2.18	2.0	Newfolden	37	-39	-1.4	1.39	6.3	Halfway	62	-7	32.6	1.18	3.5	Halfway	62	-7	32.6	1.18	3.5
Humboldt	39	-10	6.6	.....	.....	New London	40	-28	8.1	0.50	1.5	Harrisonville	61	-7	29.0	0.40	3.2	Harrisonville	61	-7	29.0	0.40	3.2
Ionia	47	-23	20.8	0.93	4.5	New Richland *1	40	-29	11.0	.....	.....	Hermann	63	-7	33.5	0.98	5.0	Hermann	63	-7	33.5	0.98	5.0
Iron River	41	-41	5.0	0.75	7.7	New Ulm	41	-29	14.1	0.42	2.0	Houston	63	-7	33.5	1.94	3.0	Houston	63	-7	33.5	1.94	3.0
Ishpeming	38	-26	9.3	2.34	22.6	Park Rapids	39	-41	3.8	0.63	6.3	Houstonia	.....	.....	.....	.....	.....	Houstonia	.....	.....	.....	.....	.....
Ivan	42	-19	18.0	1.78	13.5	Pine River	39	-43	4.1	0.49	4.3	Irena	63	-7	31.3	0.47	2.5	Irena	63	-7	31.3	0.47	2.5
Jackson	52	-8	23.9	2.11	.....	Pleistone	44	-29	0.20	0.5	.....	Ironton	66	-7	31.3	2.89	4.2	Ironton	66	-7	31.3	2.89	4.2
Jeddo	48	-11	20.6	2.74	10.4	Pleasant Mounds	49	-32	14.6	0.09	1.2	Jefferson City	64	-9	30.4	0.95	5.0	Jefferson City	64	-9	30.4	0.95	5.0
Kalamazoo	49	-15	23.6	1.61	11.2	Pokagon Falls	35	-54	0.3	0.75	7.7	Kidder	53	-17	27.2	0.43	2.2	Kidder	53	-17	27.2	0.43	2.2
Lake City	44	-34	15.5	0.50	5.0	Reeds	.....	.....	.....	.....	.....	Lamar	65	-5	34.4	0.86	3.2	Lamar	65	-5	34.4	0.86	3.2
Lansing	49	-10	21.6	2.05	6.0	Rolling Green	41	-29	13.6	T.	.....	Leamonte	63	-7	33.0	1.79	2.5	Leamonte	63	-7	33.0	1.79	2.5
Lathrop	38	-27	10.6	1.90	19.0	St. Charles	45	-27	14.8	0.88	3.0	Lexington	61	-11	30.5	0.38	T.	Lexington	61	-11	30.5	0.38	T.
Ludington	40	-4	19.8	0.92	5.9	St. Cloud	38	-28	9.5	0.30	2.0	Liberty	59	-14	28.2	0.30	1.5	Liberty	59	-14	28.2	0.30	1.5
Luzerne	42	-19	13.8	0.82	3.3	St. Olaf.	41	-27	8.0	0.82	8.2	Louisiana	55	-10	29.4	0.87	5.7	Louisiana	55	-10	29.4	0.87	5.7
Mackinaw City	43	-20	16.0	1.91	14.0	St. Peter.	44	-19	16.3	0.81	1.8	McCune *1	59	-11	30.0	1.06	6.2	McCune *1	59	-11	30.0	1.06	6.2
Madison	51	-14	23.6	2.38	2.2	Sandy Lake Dam	36	-52	3.8	0.47	5.5	Marblehill	68	-5	33.0	0.36	6.4	Marblehill	68	-5	33.0	0.36	6.4
Mancelona	40	-14	15.8	1.80	15.5	Shakopee	41	-25	14.4	0.64	8.4	Marshall	62	-14	29.2	0.53	3.2	Marshall	62	-14	29.2	0.53	3.2
Manistique	43	-5	20.7	0.79	6.5	Slayton	48	-25	16.3	T.	Maryville	52	-17	22.2	0.50	3.5	Maryville	52	-17	22.2	0.50	3.5	
Middle Island *10	41	-10	24.2	1.45	10.0	Tower	40	-48	-1.7	.....	Mexico	61	-11	29.2	0.43	1.8	Mexico	61	-11	29.2	0.43	1.8	
Mottville	51	-15	23.2	2.32	3.8	Two Harbors	43	-31	9.5	0.64	6.2	Mineralspring	61	-8	32.4	2.92	4.5	Mineralspring	61	-8	32.4	2.92	4.5
Mount Clemens	53	-12	22.8	1.45	10.0	Willmar	44	-26	10.9	0.63	1.0	Montreal	63	-10	31.2	1.53	6.0	Montreal	63	-10	31.2	1.53	6.0
Mount Pleasant	44	-15	19.6	0.98	8.0	Willow River	38	-48	6.8	0.50	5.9	Mount Vernon	70	-4	35.3	1.50	4.0	Mount Vernon	70	-4	35.3	1.50	4.0
Olivet	43	-16	17.4	0.80	4.3	Winnebago City	44	-17	14.8	T.	Neosho	64	-4	34.2	1.75	7.0	Neosho	64	-4	34.2	1.75	7.0	
Omer	43	-16	17.4	0.80	4.3	Worthington	44	-25	14.4	.....	Nevada *1	60	-5	30.3	1.22	8.0	Nevada *1	60	-5	30.3	1.22	8.0	
Ovid	48	-13	21.8	1.70	3.6	Zumbrota *1	42*	-30	14.1	.....	New Haven	68	-6	31.2	1.37	2.7	New Haven	68	-6	31.2	1.37	2.7	
Parkville	.....	.....	.....	.....	.....	Aberdeen	66	18	40.8	4.20	.....	New Madrid	68	5	38.6	12.61	12.9	New Madrid	68	5	38.6	12.61	12.9
Petoskey	42	-13	17.9	2.15	15.0	Agricultural College	64	15	43.4	8.37	.....	New Palestine	60	-10	30.8	0.88	2.8	New Palestine	60	-10	30.8	0.88	2.8
Plymouth	50	-12	23.2	1.25	.....	Austin	65	9	41.8	5.84	1.5	Oakfield	64	-8	32.4	1.71	5.5	Oakfield	64	-8	32.4	1.71	5.5
Port Austin	47	-8	21.6	0.90	2.0	Batesville	68	9	43.7	6.84	1.0	Olden	63	-9	32.4	2.84	5.0	Olden	63	-9	32.4	2.84	5.0
Powers	42	-28	15.2	1.57	15.7	Bay St. Louis	73	28	50.1	4.84	.....	Oregon a	54	-14	26.6	0.66	3.8	Oregon a	54	-14	26.6	0.66	3.8
Reed City	42	-28	15.2	0.69	6.9	Biloxi	74	30	50.4														

TABLE II.—Climatological record of voluntary and other cooperating observers—Continued.

Stations.	Temperature. (Fahrenheit.)			Precipita- tion.			Stations.	Temperature. (Fahrenheit.)			Precipita- tion.			Stations.	Temperature. (Fahrenheit.)			Precipita- tion.		
	Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.			Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.			Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.	
Montana—Cont'd.	0	0	0	In.	In.		Nebraska—Cont'd.	0	0	0	In.	In.		Nevada—Cont'd.	0	0	0	In.	In.	
Butte	45	-6	26.8	2.35	23.5		Haigler	57	-21	18.8	0.80	3.0		Crane's Ranch	.....	.....	.....	0.69	.....
Canyon Ferry	46	-18	19.4	0.94	7.0		Hartington	57	-21	18.8	0.85	5.5		Darragh Ranch	.....	.....	.....	0.71	4.0
Castle	48	-18	19.5	1.68	.....		Harvard	63	-18	24.2	0.01	T.		Ely	46	-10	26.2	2.05	20.5
Columbia Falls	44	-22	21.2	2.11	21.1		Hastings* ¹	61	-12	25.3	0.04	T.		Fenelon* ¹	45	0	25.0	1.84	18.0	
Corvallis	55	-13	22.7	0.70	7.0		Hayes Center	55	-15	21.3	0.41	3.5		Golconda* ¹	53	8	30.0	0.45	2.5	
Crow Agency	49	-15	21.0	1.11	12.5		Hebron	63	-11	25.1	0.05	0.5		Halleck* ¹	50	-10	27.0	0.63	6.9	
Darby ²	53	0	30.0	0.10	.....		Hickman	.....	.....	.....	0.20	3.5		Hawthorne b	63	7	35.8	0.89	5.0
Dearborn Canyon	49	-34	22.4	2.40	24.0		Holdrege	.....	.....	.....	.....	.....		Hot Springs	.....	.....	.....	0.20	2.0
Deer Lodge	49	-22	23.9	.....	.....		Hooper* ¹	56	-18	21.1	0.07	0.2		Lewers Ranch	61	5	36.8	2.41	22.2
Dell	45	-14	21.8	0.20	2.0		Imperial	60	-13	26.8	1.00	9.5		Los Vegas	65	17	40.1	0.40	.....
Dupuyer	49	-20	21.0	.....	.....		Johnstown	.....	.....	.....	.....	.....		Martins	53	-5	35.4	0.78	1.0
Ekulaka	47	-22	16.8	0.30	3.0		Kearney	64	-20	23.3	0.00	5.0		Monitor Mill	48	-12	26.6	1.88	18.0	
Florence	54	-15	28.1	1.13	.....		Kimball	52	-9	24.4	0.65	6.5		Palisade* ¹	53	-1	30.9	0.70	7.0
Fort Benton	47	-19	20.8	0.60	6.0		Kirkwood* ¹	58	-20	19.1	0.42	4.0		Palmetto	63	-4	30.4	1.20	12.0	
Fort Keogh	48	-18	17.2	0.60	6.0		Lexington	60	-11	21.8	0.05	0.5		Panaca	61	-2	31.1	0.37	.....
Fort Logan	49	-45	17.6	1.26	.....		Lincoln b	63	-13	25.8	0.09	0.8		Reno State University	58	10	33.6	0.30	8.0
Glasgow	43	-37	6.8	0.40	.....		Lincoln d	53	-11	25.2	0.15	2.2		St. Clair	64	1	38.6	T.	T.
Glendive	50	-25	16.0	0.70	7.0		Lodgepole	60	-15	28.8	1.50	15.0		Silverpeak	64	1	38.6	T.	T.	
Glenwood	42	-21	19.4	2.08	.....		Loup* ¹	62	-12	21.9	T.	T.		Sodaville	63	1	33.9	0.49	7.0
Greatfalls	53	-24	22.1	1.10	23.5		Lynch* ¹	59	-19	19.1	0.16	1.8		Tecoma* ¹	50	-2	25.9	0.40	4.0	
Kalispel	52	-19	23.2	3.35	31.0		Lyons	.....	.....	.....	0.12	.....		Toano* ¹	46	0	27.5	1.90	16.0
Kipp	45	-39	16.7	1.62	18.2		McCook* ¹	56	-9	27.5	0.50	5.0		Tuscarora	41	-4	21.1	.....	.....
Livingston	50	-11	25.0	1.06	20.3		McCool	60	-10	25.8	0.03	0.5		Tybo	49	10	38.6	1.75	26.0	
Manhattan	50	-32	20.4	0.40	4.0		Madison	60	-17	24.0	0.12	1.0		Verdi* ¹	56	10	38.6	2.41	12.5	
Martinsdale	45	-15	21.1	2.50	25.0		Marquette	.....	.....	.....	0.20	2.0		Wadsworth* ¹	62	16	34.9	0.30	2.0
Marysville	41	-19	19.8	2.70	46.0		Merriman	.....	.....	.....	0.80	8.0		Wells	47	-16	27.6	1.38	4.5
Missoula	47	-14	26.8	0.73	4.0		Minden a	61	-12	24.8	0.03	0.2		New Hampshire	.....	.....	.....	.....	.....
Parrot	60	-24	34.2	1.20	12.0		Minden b	.....	.....	.....	0.03	.....		Alstead* ⁶	44	-19	17.8	2.41	12.5
Plains	51	-13	26.8	1.40	14.0		Monroe	.....	.....	.....	0.07	0.6		Berlin Mills	50	-22	14.6	1.98	10.5
Poplar	45	-28	6.8	1.20	12.0		Nebraska City c	57	-14	24.4	0.18	.....		Bethlehem	49	-17	15.4	2.43	15.5
Radersburg	.....	.....	.....	1.00	10.0		Nemaha* ¹	55	-14	24.4	0.10	1.0		Brookline* ¹	50	-28	22.8	2.00	10.0
Red Lodge	50	-15	19.4	2.85	28.5		Neshit	58	-13	22.6	0.10	1.0		Concord	52	-17	20.6	2.55	8.8	
Ridge	53	-29	18.5	0.55	5.8		Norfolk	58	-21	19.8	0.03	1.0		Durham	54	8	23.4	.....	.....
St. Ignatius	49	-20	26.2	0.92	14.0		North Loup	62	-14	22.0	0.60	1.0		Grafton	49	-19	16.8	2.02	15.0	
St. Pauls	44	-25	16.5	.....	.....		Rudolph	58	-17	24.0	0.05	0.5		Hanover	50	-23	16.8	2.19	8.0
Shelby	50	-21	18.0	.....	.....		Republican* ¹	50	-18	23.5	0.20	2.0		Keene	49	-28	20.3	2.68	10.5
Troy	56	-26	24.2	8.95	28.5		Rulo* ¹	56	-5	29.9	0.20	2.0		Littleton	50	-19	14.7	1.56	9.0	
Twin Bridges	50	-23	24.2	0.35	3.5		St. Libory	58	-17	20.0	0.08	0.5		Nashua	53	-19	22.9	3.51	12.0	
Utica	48	-24	20.4	1.69	23.0		Springview	59	-20	20.4	0.18	0.8		Newton	53	-9	23.8	3.11	9.0	
Wibaux	48	-34	14.9	.....	.....		St. Paul	.....	.....	.....	0.16	.....		North Conway	56	-25	17.8	3.25	17.0
Yale	47	-14	23.7	1.70	17.0		Salem* ¹	54	-10	25.4	0.20	2.0		Peterboro	46	-22	20.4	2.26	7.5	
Nebraska—Cont'd.	50	-18	20.9	0.27	3.0		Sequoia	.....	.....	.....	0.80	8.0		Plymouth	55	-14	16.2	2.88	16.5
Alliance	.....	.....	.....	0.43	3.5		T. T.	.....	.....	.....	0.05	1.7		Sanbornton	48	-16	18.4	2.32	9.0
Alma	66	-9	26.6	0.10	1.0		T. T.	.....	.....	.....	0.05	0.5		Stratford	49	-22	15.4	2.08	13.0
Ansley	64	-14	23.0	0.04	0.5		T. T.	.....	.....	.....	0.05	0.5		Warren	.....	.....	.....	2.95	12.0
Arapaho* ¹	64	-10	25.6	0.20	2.0		T. T.	.....	.....	.....	0.05	0.5		New Jersey	.....	.....	.....	.....	.....
Arborville* ¹	62	-14	23.9	T.	T.		T. T.	.....	.....	.....	0.05	0.5		Ashbury Park	50	0	32.4	4.21	5.0
Ashland a	62	-15	24.9	0.03	.....		T. T.	.....	.....	.....	0.05	0.5		Barnegat	53	5	38.4	2.48	0.5
Ashland b* ¹	50	-13	23.3	0.06	1.8		T. T.	.....	.....	.....	0.04	0.4		Bayonne	53	4	30.4	7.42	7.5
Ashton	.....	.....	.....	0.09	1.0		T. T.	.....	.....	.....	0.04	0.4		Belvidere	48	-11	24.5	3.54	5.0
Auburn	57	-14	25.7	0.27	2.2		T. T.	.....	.....	.....	0.04	0.4		Bergen Point	54	5	30.6	5.41	5.0
Aurora* ¹	60	-11	25.4	0.05	0.5		T. T.	.....	.....	.....	0.04	0.4		Beverly	56	-2	30.9	4.89	7.8
Bartley	58	-18	21.8	0.10	1.0		T. T.	.....	.....	.....	0.04	0.4		Billingsport*	58	6	30.8	5.03	9.0
Bassett	.....	.....	.....	0.19	3.0		T. T.	.....	.....	.....	0.04	0.4		Boonton	52	-5	27.5	4.09	9.0
Beatrice	59	-12	24.4	T.	T.		T. T.	.....	.....	.....	0.04	0.4		Bridgeton	57	4	38.3	3.48	6.0
Beaver City	66	-15	23.1	0.10	1.0		T. T.	.....	.....	.....	0.05	0.5		Camden	56	3	30.6	4.46	5.8
Bellevue	.....	.....	.....	0.05	1.5		T. T.	.....	.....	.....	0.05	0.5		Cape May C. H.	59	3	35.0	3.14	0.7
Benedict	.....	.....	.....	0.07	0.4		T. T.	.....	.....	.....	0.05	0.5		Charlottesville	52	-7	27.3	3.88	5.0
Benkleman	.....	.....	.....	0.40	4.0		T. T.	.....	.....	.....	0.05	0.5		Chester	58	-5	25.6	3.66	6.0
Blair	58	-18	21.8	0.08	0.4		T. T.	.....	.....	.....	0.05	0.5		Clayton	58	-2	31.4	3.58	6.0
Bluehill	.....	.....	.....	0.05	0.5		T. T.	.....	.....	.....	0.05	0.5		College Farm	53	5	32.8	4.88	5.0
Bradshaw	.....	.....	.....	0.05	0.5		T. T.	.....	.....	.....	0.05	0.5		Deckertown	47	-10	25.5	3.45	8.5
Brokenbow	.....	.....	.....	0.05	0.5		T. T.	.....	.....	.....	0.05	0.5		Dover	52	-8	26.4	4.15	11.0
Burwell	.....	.....	.....	0.05	0.5		T. T.	.....	.....	.....	0.05	0.5		Egg Harbor City	57	-1	31.0	3.01	4.0
Callaway	60	-16	22.6	T.	T.		T. T.	.....	.....	.....	0.05	0.5		Elizabeth	54	-3	30.4	4.78	.....
Camp Clarke	55	-16	21.4	0.80	8.0		T. T.	.....	.....	.....	0.05	0.5		Englewood	51	-17	26.3	5.00	4.2
Central City	.....	.....	.....	0.05	0.0		T. T.	.....	.....	.....	0.05	0.5		Flemington	52	-11			

TABLE II.—Climatological record of voluntary and other cooperating observers—Continued.

Stations.	Temperature. (Fahrenheit.)			Precipita- tion.		Stations.	Temperature. (Fahrenheit.)			Precipita- tion.		Stations.	Temperature. (Fahrenheit.)			Precipita- tion.	
	Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.		Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.		Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.
New Jersey—Cont'd.	o	o	o	Ins.	Ins.	New York—Cont'd.	o	o	o	Ins.	Ins.	North Carolina—Cont'd.	o	o	o	Ins.	Ins.
Vineland	57	2	38.0	8.19	4.5	Lake Placid	50	-25	17.4	1.90	15.0	Selma	74	8	40.8	5.67	7.0
Woodbine	59	-1	34.8	2.60	5.0	Little Falls	56	-16	18.2	1.68	18.0	Settle	53	12	35.6	4.92	4.5
New Mexico.						Lockport	52	-4	24.9			Sloan	75	16	45.6	3.92	3.0
Albert	54	7	34.4	0.05	0.5	Lowville	49	-27	17.6	3.64	17.0	Soapstone Mount	67	5	38.0	3.72	7.0
Albuquerque	56	7	31.6	0.35	3.5	Lyndonville				0.56		Southern Pines ^a	75	15	45.0	3.79	5.0
Aztec	48	-11	19.0	0.57	5.7	Lyons	57	0	26.0	0.92	5.0	Southport	75	15	44.3		
Bernalillo	58	11	33.2	0.15	3.0	Madison Barracks				1.60	14.0	Springhope ^{*1}	66	19	47.4	4.37	
Bluewater	52	-2	26.9	0.90	9.0	Middleton	50	-1	24.0	3.23	2.5	Tarboro	77	13	41.4	3.64	6.8
Buckmans	38	-21	12.7	0.51	5.4	Milford				1.20	10.0	Washwoods	60			3.79	4.0
Clayton ¹	62	2	32.4	0.40	4.0	Mohonk Lake	44*	-8	22.9			Waynesville				3.52	2.8
East Lasvegas	59	8	33.1	T.	T.	Mount Morris				1.90		Weldon	73	8	33.6	2.68	7.0
Eddy	73	14	44.2	0.00		Napoli				1.88		North Dakota.					
Engle	58	10	32.8	0.55	0.0	Newark Valley				1.46	10.2	Amenia	88	-29	4.6	0.18	1.8
Espanola	54	0	25.3	0.05	0.5	New Lisbon	51	-25	18.7	1.46		Ashley	42	-27	8.9	T.	T.
Folsom	51	0	26.6	0.70	7.0	Niagara Falls				1.76		Berlin	40	-30	6.1	0.18	1.8
Fort Bayard	61	11	37.1	0.30	3.0	North Hammond	50	-18	19.8	2.02	5.0	Bottineau	33	-35	2.9	0.75	7.5
Fort Union	64	5	32.4	T.	T.	North Lake	46	-25	12.9	3.43	22.0	Buxton	36	-30	1.8	0.05	0.5
Fort Wingate	59	1	27.0	0.28	2.8	Number Four	45	-27	15.6	4.53	33.8	Coal Harbor	45	-26	5.7	T.	T.
Gage ^{*1}	60	24	42.1	0.36		Nunda	52	-12	23.2	1.61	8.5	Devils Lake	43	-33	3.2	0.10	1.0
Galisteo	55	2	29.8	0.20	2.0	Ogdensburg	54	-20	17.6	1.18	3.0	Dickinson	45	-27	10.2	0.12	1.2
Gallinas Spring	60	5	33.6	0.02	T.	Oneonta	45*	-14	22.5	2.33		Dunseith	34	-37	2.2		
Gila	64	16	38.8	1.03	1.0	Oxford	48	-23	21.2	2.22	12.6	Ellendale	42	-24	11.4	T.	T.
Hillsboro	12		0.00			Palermo	51	-12	21.2	1.58	5.0	Fargo	39	-30	4.0	0.29	2.9
Laluzo	58	20	35.8	0.33	T.	Penn Yan	55	-6	23.9	1.70	10.6	Fort Berthold	55	-26	9.8	0.20	2.0
Las Vegas Hot Springs	55	6	31.6	T.	T.	Perry City	47	-12	20.0	2.03	14.6	Fort Yates				0.82	T.
Lordsburg ¹	64	17	38.4	0.33		Phenix				1.52		Fullerton	44	-26	7.4	0.34	2.5
Los Lunas	56	7	30.2	0.25	2.0	Plattsburgh Barracks	44	-18	16.5	2.70		Gallatin	37	-34	3.4	0.21	2.1
Lower Penasco	64	10	37.8	T.	T.	Port Jervis	49	-12	28.6	2.84	9.0	Glennlin	41	-26	7.6	T.	T.
Mesilla Park	69	8	38.9	0.05		Poughkeepsie	51*	-20	25.4	2.37		Goetz	47	-30	5.4	0.36	3.5
Monero	43	-11	16.2	0.93		Primrose	52	-12	27.2	4.34	6.5	Grafton	33	-31	0.0	0.24	2.4
Puerto de Luna	60	8	37.0	T.	T.	Ridgeaway	53	-5	24.8	1.52	5.8	Hamilton	36	-41	2.8	1.14	7.4
Raton	55	0	26.3	T.	T.	Rome	48	-18	17.2	3.11		Jamestown	40	-38	7.2	0.11	1.1
Rincon	67	10	40.3	0.27		Romulus	56	-3	24.6	1.24	8.0	Keiso	39	-31	5.6		
Roswell	72	4	37.8	0.06		Rose				0.75		Minot	50	-38	5.2	0.30	3.0
San Marcial	69	10	38.1	0.00		St. Johnsville	53	-13	20.5	2.26	13.2	Napoleon	43	-30	7.0	0.40	4.0
Shattucks Ranch	61	8	36.8	0.45	5.5	Saranac Lake	52	-35	18.2	2.23	16.5	New England City	43	-32	18.5	0.15	1.5
Socorro	62	8	32.4	0.01	0.2	Saratoga Springs	47	-28	18.4	2.74	16.5	Oakdale	45	-18	14.4	0.19	1.9
Strauss ^{*1}	73	27	45.3			Schenectady	48	-13	20.7			Portal ¹	37	-33	1.4		
White Oaks	53	8	31.8	0.90	9.0	Setauket	54	5	30.8	4.71	3.5	Power	43	-31	6.3		
Winsors Ranch	51	-8	21.8	0.70		Sherwood				1.04		Sheyenne	37	-34	4.5	0.11	1.1
New York.						Skaneateles				1.20		Steile	43	-26	5.4	T.	T.
Adams						South Canisteo	55	-16	22.0	1.93	11.4	Towner	39	-33	2.8		
Addison	55	-10	23.0	1.87	13.8	Southeast Reservoir				8.73		University	46	-28	3.0	0.60	6.0
Akron						South Kortright	53	-19	20.6			Wahpeton	42	-28	10.3	0.38	3.6
Alden						Straits Corners	49	-15	20.4	1.71	8.0	Woodburn	48*	-29	10.5	0.10	1.0
Alfred	56	-16	23.2	2.20	12.0	Ticonderoga				2.51		Woodbridge	38	-37	2.0	0.36	1.6
Angelica	55	-17	22.5	2.04	13.0	Victoria	57	-3	23.64	1.94	10.0	Ohio.					
Appleton	54	-2	25.5	1.29	3.5	Wappingers Falls	58	-18	24.5	3.69	6.0	Akron	56	-3	26.8	2.98	6.7
Arcade	54	-14	21.0	2.22	8.2				2.79		Annapolis	56	-1	21.1	1.44	6.0	
Atlanta						Watertown	56	-23	20.7	3.36	26.0	Ashland	55	-4	26.4	2.16	9.5
Auburn	55	6	25.0	1.30	3.0	Waverly	54	-13	21.8	1.77	11.9	Ashtabula	58	-9	25.6	3.12	10.0
Avon	55	-10	23.8	0.81	6.8	Wedgewood	51	-7	21.6	1.72	12.0	Atwater	57	-2	27.6	2.43	7.5
Baldwinsville	56	-7	24.0	1.33	6.0	West Berne	43	-18	19.5	1.85	16.5	Bangorville	63	-8	25.0	3.69	4.0
Bedford	53	-17	27.4	3.90	8.6	Westfield	50	-9	26.4			Basil				1.96	1.5
Big Sandy ^{*10}	46	-25	20.4			Westpoint	60	-15	27.4	3.50		Bement				1.73	5.6
Bolivar	62	-15	22.1	2.19	8.0				3.50		Benton Ridge	54	-5	25.6	3.70	9.0	
Bouckville	42	-20	17.8	2.43	15.0				5.0		Bethany	58	0	30.6	3.54	4.0	
Boys Corner											Bigprairie	56	-4	27.4	3.35	5.8	
Brentwood	54	-13	28.3	4.10	10.0						Bloomingburg	58	-1	28.8	3.39	11.8	
Canajoharie	54	-18	26.6	1.08							Bowling Green	55	-1	28.8	2.75	7.0	
Canton	58	-24	18.2	1.71	5.2						Bucyrus	58	-8	26.1	2.17	2.8	
Carmel	50	-11	25.2	3.59	4.2						Cambridge	51	-6	27.3	3.17	2.0	
Carvers Falls	49	-33	18.6	2.21	18.0						Camp Dennison	60	4	31.2	3.71	6.9	
Catskill	50	-10	28.8	1.45	8.0						Canal Dover	59	0	27.4	3.28	8.5	
Cedarhill	50	-12	28.2	1.62	4.0						Canton	58	-1	28.8	3.12	8.2	
Charlotte ^{*10}	56	2	26.6								Carrolton	61	-3	27.8	3.33	10.0	
Chenango Forks											Cedarville				3.30	4.2	
Cherry Creek											Cellina	54	-11	26.2	2.76	2.0	
Cooperstown	50	-18	20.2	2.22	10.0						Circleville	52	-2	30.1	2.42	6.0	
Cortland	51	-16	22.0	1.88	11.2						Clarksville	62	2	31.1	3.47	5.3	
Cutchogue	54	6	30.4	5.43	4.0						Cleveland ^b	57	-2	27.6	3.24	10.5	
Dekalb Junction											Cleveland ^b	65	1	25.8	3.40	3.2	
Dryden	51	-19	21.0	1.29							Coifton	64	-8	28.0	3.60	14.0	
Eagle Mills											Colebrook	56	-18	25.1	3.60	6.5	
Easton											Dayton ^a	59	-2	31.2	3.51	4.1	
Elizabethtown ^{*1}	50	-24	22.1								Dayton ^b	58	-9	25.6	2.08	2.5	
Elmira	50	-4	23.9	1.51							Defiance	58	-1	29.4	3.03	5.8	
Fayetteville											Delaware	58	-4	29.4	3.08	6.0	
Fleming	48	-4	23.6								Demos	60	-3	26.6			
Fort Niagara	53	-3	24.5	1.67	2.0						Dupont</td						

TABLE II.—Climatological record of voluntary and other cooperating observers—Continued.

Stations.	Temperature. (Fahrenheit.)			Precipita- tion.		Stations.	Temperature. (Fahrenheit.)			Precipita- tion.		Stations.	Temperature. (Fahrenheit.)			Precipita- tion.	
	Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.		Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.		Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.
<i>Ohio—Cont'd.</i>																	
Greenville	53	— 5	27.0	8.65	8.0	Norman	66	— 0	37.2	0.62	1.2	Pennsylvania—Cont'd.	○	○	○	Ins.	Ins.
Hockney	49	— 0	28.8	3.60	22.0	Fawhouska	65	— 1	34.3	3.14	8.0	Davis Island Dam	○	○	○	2.51	11.1
Hanging Rock	63	— 6	32.4	6.53	7.0	Perry*	64	— 7	31.8	0.76	2.8	Derry Station	64	— 17	28.7	4.25	16.5
Hedges	53	— 9	26.1	2.88	7.5	Prudence	71	— 5	33.0	0.32	2.8	Doylestown	—	—	—	4.02	—
Hillhouse	57	— 11	24.5	2.81	9.0	Putnam	66 ^a	— 1 ^b	32.3 ^c	0.44	4.5	Driftwood	—	—	—	1.85	—
Hillsboro	61	— 1	31.0	2.95	11.0	Sac and Fox Agency ^d	67	— 4	36.8	1.35	1.0	Duncannon	—	—	—	2.43	8.8
Hiram	53	— 7	25.3	3.05	6.5	Stillwater	67	— 2	37.0	0.48	2.5	Dushore	49	— 21	22.0	1.94	3.8
Hudson	55	— 11	25.1	2.70	7.0	Waukomis	68	— 5	35.4	T.	T.	East Bloomsburg	50	— 19	20.6	2.09	11.5
Jacksonboro	56	— 4	28.6	4.68	9.0	Winnview	65 ^e	— 4 ^f	34.9 ^g	0.40	4.0	East Mauch Chunk	49	— 9	24.5	3.07	8.8
Kenton	58	— 6	28.2	3.46	6.0	Oregon.	—	—	—	—	—	Easton	50	— 3	26.6	4.03	8.0
Killbuck	56	— 3	27.5	1.75	6.8	Albany ^h	61	— 29	44.2	5.80	T.	Ellwood Junction	—	—	—	2.23	9.7
Lancaster	60	— 8	29.8	8.84	2.2	Albany ⁱ	60	— 0	35.5	5.56	—	Emporium	58	— 12	23.4	3.91	19.4
Leipsic	53	— 8	28.3	2.57	2.0	Arlington	56	— 27	39.4	2.68	2.9	Everett	57	— 15	28.2	3.48	9.0
Levering	53	— 5	24.5	3.84	4.0	Ashland ^j	58	— 25	41.8	10.12	2.0	Farrandsville	—	—	—	2.21	14.0
Logan	63	— 1	31.4	1.88	7.5	Aurora* ^k	58	— 35	41.5	6.45	3.5	Forks of Neshaminy ^l	50	— 2	29.7	4.25	—
Lordstown	56	— 11	23.8	2.03	7.5	Aurora(near)	58	— 36	47.4	7.43	Franklin	62	— 13	25.7	0.82	8.3	
McArthur	64	— 8	29.0	3.25	11.0	Bandon	57	— 28	43.8	23.53	—	Frederick	—	—	—	2.84	—
McConnellsville	63	— 4	30.9	3.94	9.5	Bay City	55	— 28	43.8	—	—	Freeport	—	—	—	3.27	14.3
Mansfield	—	—	—	—	Beulah	53	— 26	4.6	1.55	21.0	Girardville	—	—	—	2.78	8.2	
Marietta ^m	64	— 5	32.9	3.64	11.0	Brownsville ⁿ	58	— 32	48.3	5.86	—	Grampian	52	— 13	23.6	3.12	15.0
Marion	56	— 3	28.4	2.97	5.5	Burns	48	— 4	35.4	1.90	19.0	Grosboro	65	— 3	31.6	3.97	16.6
Medina	57	— 14	25.4	3.60	9.0	Burns (near)	60	— 15	36.4	—	—	Hamburg	48	— 6	26.6	4.41	—
Milfordton	—	—	—	—	Cascade Locks	54	— 15	35.8	15.84	—	Hawley	54	— 17	23.2	3.52	4.4	
Milligan	62	— 5	29.6	2.38	7.0	Comstock ^o	62	— 33	43.8	8.13	2.0	Hews Island Dam	—	—	—	2.78	16.5
Millport	60	— 6	25.9	3.61	9.0	Coquille River	—	—	—	—	—	Huntingdon ^p	57	— 17	28.2	2.61	11.5
Montpelier	52	— 13	23.6	2.09	5.8	Corvallis	58	— 28	42.7	6.28	0.1	Huntingdon ^q	—	—	—	2.10	17.4
Napoleon	55	— 10	25.3	1.25	2.0	Dayville	61	— 15	37.6	2.52	9.2	Irwin	—	—	—	3.31	33.1
Neapolis	—	—	—	—	Eugene	—	—	—	—	—	Johnstown	61	— 8	29.3	4.16	15.8	
New Alexandria	61	— 0	28.1	3.65	18.0	Fairview	61	— 32	45.6	12.36	1.0	Karthaus	—	—	—	2.35	16.0
New Berlin	56	— 7	26.2	2.18	4.0	Falls City	55	— 29	41.0	15.69	1.1	Keating	—	—	—	2.35	11.0
New Holland	62	— 2	29.0	2.54	10.2	Forestgrove	58	— 20	38.0	8.58	6.7	Kennett Square	54	— 6	30.6	4.82	7.2
New Paris	55	— 6	28.7	3.46	2.8	Gardiner	58	— 26	46.5	13.06	—	Lawrenceville	52	—	—	1.85	—
New Waterford	54	— 2	27.0	2.68	12.0	Glenora	59	— 28	40.8	30.08	8.0	Lebanon	50	— 14	26.3	3.67	15.0
North Lewisburg	60	— 6	28.8	3.75	7.0	Government Camp	50	— 8	31.6	20.79	72.0	Leroy	50	— 8	21.5	2.19	10.0
North Royalton	55	— 12	26.1	2.73	6.0	Grants Pass ^r	58	— 26	41.3	5.50	1.0	Lewisburg	50	— 20	25.0	2.55	11.2
Norwalk	57	— 10	27.0	3.63	6.5	Happy Valley	55	— 8	38.6	1.39	6.5	Lock Haven ^s	53	— 14	26.7	2.79	9.5
Oberlin	57	— 11	26.6	2.80	—	Heppner	58	— 4	36.3	1.52	11.0	Lock Haven ^t	—	—	—	2.16	10.0
Ohio State University	62	— 1	30.0	2.86	5.7	Hood River (near)	55	— 8	34.4	7.55	48.0	Lock No. 4	—	—	—	3.13	14.0
Orangeville	58	— 12	23.4	2.05	8.0	Jacksonville	53	— 27	39.2	4.55	2.5	Lycopps	66	— 0	28.8	3.65	13.5
Ottawa	54	— 8	26.8	2.84	6.5	Joseph	51	— 3	27.6	0.75	7.5	Mifflin	—	—	—	2.60	9.0
Patackala	60	— 1	28.8	2.39	6.8	Junction City ^u	66	— 30	44.6	4.64	—	Nisbet	—	—	—	1.76	8.8
Perry	—	—	—	—	Kerby	62	— 25	41.2	12.49	4.0	Oil City	—	—	—	2.57	8.8	
Philo	60	— 1	28.0	2.03	7.8	Klamath Falls	52	— 13	32.7	3.22	20.0	Ottsville	—	—	—	2.32	—
Plattsburg	57	— 3	28.2	3.61	5.0	Lafayette ^v	58	— 28	40.8	9.34	—	Parker	—	—	—	2.08	9.2
Point Marblehead ^w	60	— 1	29.2	—	Lagrange	58	— 4	34.5	2.84	12.0	Philadelphia	55	— 6	32.4	4.13	6.9	
Pomeroy	61	— 8	32.0	4.61	15.0	Langlois	78	— 34	50.0	12.31	—	Quakertown	61	— 13	37.0	3.74	7.0
Portsmouth ^x	66	— 1	34.4	5.00	Lonerock	56	— 21	34.6	2.43	17.0	Reading ^y	—	—	—	2.65	14.8	
Pulse	—	—	—	—	McMinnville	55	— 21	41.8	8.28	4.5	Renovo ^z	59	— 6	26.2	2.65	14.8	
Richwood	60	— 7	29.6	3.48	7.5	Merlin ^{aa}	58	— 28	37.3	6.96	—	Ridgway	—	—	—	1.92	—
Ridgeville Corners	53	— 10	25.8	2.28	3.0	Monmouth ^{ab}	58	— 23	42.9	4.02	T.	Saegerstown	57	— 18	27.4	2.67	11.6
Riley	63	— 3	31.6	4.06	19.4	Monroe	58	— 27	41.6	8.55	0.1	Saint Marys	52	— 11	30.5	—	—
Ritman	54	— 9	25.4	3.88	4.2	Mount Angel	58	— 18	42.6	5.88	1.0	Mount Angel	—	—	—	3.86	8.4
Rockyridge	55	— 3	26.8	2.53	4.0	Nehalem	—	—	—	—	—	Shingelhouse	—	—	—	1.18	8.0
Rosewood	55	— 6	27.1	3.65	3.0	Newberg	58	— 29	43.2	6.86	2.0	Sinnamahoning	—	—	—	1.23	—
Seaman	61	— 1	29.3	3.44	11.2	Newbridge	50	— 15	32.4	1.73	8.0	Smethport	53	— 15	23.2	2.30	8.0
Shenandoah	55	— 10	25.0	3.15	7.4	Sheridan ^{cc}	61	— 31	44.4	5.78	—	Smiths Corners	58	— 13	24.4	4.13	—
Sidney	55	— 8	26.4	3.28	4.2	Silver Lake	60	— 10	33.0	1.40	T.	Somerset	58	— 14	24.7	1.98	5.0
Sinking Spring	—	—	—	—	Silverton ^{dd}	60	— 24	45.0	5.65	1.2	State College	56	— 9	25.0	2.60	12.9	
Somerset	60	— 8	30.8	4.47	Siskiyou ^{ee}	60	— 22	38.0	5.90	51.0	Sunbury	—	—	—	2.10	—	
Springboro	—	—	—	—	Sparta	48	— 9	29.6	—	—	Swarthmore	54	— 2	29.3	3.25	8.0	
Sylvania	51	— 10	24.1	3.62	6.0	Springfield ^{ff}	60	— 31	43.1	4.35	1.0	Towanda	53	— 15	24.0	1.80	9.0
Thurman	65	— 9	32.2	3.05	5.0	Stafford	56	— 21	40.4	8.06	6.0	Trot Run	—	—	—	2.38	10.5
Tiffin	56	— 4	27.2	3.72	7.8	The Dalles	62	— 24	34.6	2.82	24.2	Uniorntown	63	— 8	30.8	4.28	18.5
Upper Sandusky	55	— 6	28.0	3.20	Tillamook Rock	—</td											

TABLE II.—Climatological record of voluntary and other cooperating observers—Continued.

Stations.	Temperature. (Fahrenheit.)			Precipita- tion.			Stations.	Temperature. (Fahrenheit.)			Precipita- tion.			Stations.	Temperature. (Fahrenheit.)			Precipita- tion.		
	Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.			Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.			Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.	
	o	o	o	Ins.	Ins.	T.		o	o	o	Ins.	Ins.	T.		o	o	o	Ins.	Ins.	
<i>South Carolina—Cont'd.</i>							<i>Tennessee—Cont'd.</i>							<i>Texas—Cont'd.</i>						
Darlington	o	o	o	3.17	3.0		Decatur	o	14	39.3	4.41	2.0		Kerrville	o	14	44.6	0.11	0.5	
Edisto				4.42	2.5		Dover	62	5'	40.1 ¹	7.46	8.5		Lampasas	71	12	44.6	0.28	0.5	
Effingham				5.44	3.0		Elizabethton	68	13	37.2	3.13	5.0		Langtry	73	20	47.5	0.05	0.5	
Florence	75	21	44.0	4.51	0.8		Els Valley	7	7	7.14	8.0			Llano ²	73	18	44.6	4.09		
Gaffney				4.89	8.0		Erasmus	60	9	35.9	6.40	5.0		Longview	71	18	44.6			
Georgetown	74	22	46.6	3.00			Florence	64	9	38.0	5.84	7.0		Luling	76	20	49.0	1.18		
Gillisonville	78	27	47.8	4.75	T.		Franklin	63	5	37.8	5.49	5.2		Mann	68 ³	15 ⁴	40.0 ⁵	1.30		
Greenville	68	19	40.2	5.78	2.0		Grace ⁶	58	8	35.8	4.30	10.0		Marshall	72	18	46.8	2.33	0.1	
Greenwood	69	21	41.4	5.20	4.0		Greeneville	64	12	39.0	3.10	7.7		Menardville						
Holland	65	19	40.8	6.95	3.0		Harriman	64	15	37.1	4.94	2.5		Mount Blanco	70	6	37.2	0.30	3.0	
Kingstree ^a	75	23	47.1	3.29	3.5		Hohenwald	61	5	36.9	5.90	4.3		New Braunfels	74	21	48.9	0.31		
Kingstree ^b				3.80	3.7		Jackson	73	7	39.2	6.19	5.0		Panter						
Little Mountain	71	17	42.7	4.63	8.5		Johnsonville	63	4	38.0	6.49	5.0		Point Isabel ¹	80	36	62.1	T.		
Longshore	69	19	42.1	5.28	7.0		Jonesboro ¹	65	15	36.9	2.79	6.2		Rheinland	71	8	39.6	0.46	1.5	
Mount Carmel				5.88	2.9		Kingston							Roby	80	6	43.8	1.30	2.5	
Pinopolis ¹	70	26	47.2	3.71			Lafayette ²	60	9	35.6	8.30	6.0		Rock Island						
St. Georges	78	24	46.0	3.58	2.0		Liberty	64	8	40.0	7.42	4.0		Rockport ¹	69	36	57.3			
St. Matthews	75	23	45.2	4.28	2.5		Lynnyville	64	18	38.6	6.03	2.0		Rock Springs						
St. Stephens				3.80	2.1		McMinnville	64	9	38.2	7.46	2.5		Runge	85	21	58.2	2.68		
Santuck	67	18	41.8	4.13	3.5		Madison	69	2	37.9	6.32	7.0		Sabine Pass	73	81	52.4	8.91		
Shaws Fork	73	24	41.8	6.81	3.0		Maryville ⁵	62	14	39.2	4.83	4.5		San Antonio	77	20	51.7	0.40		
Smiths Mills				3.41	2.2		Newport	70	18	39.4	3.12	5.5		Sanderson	73	12	45.7	0.00		
Society Hill	74	21	42.9	4.08	7.0		Nunnelly	63	0	38.2	5.50	7.8		San Marcos	68	19	43.0	0.46		
Spartanburg	65	25	48.1	6.65	7.5		Oak Hill	63	7	39.3	8.18	18.0		Sherman	72	18	43.7	2.35		
Statesburg	77	21	46.6	5.04	4.0		Palmetto	65	8	40.0	6.47	5.0		Temple ^a	72	11	44.2	0.82		
Summerville	74	23	48.4	5.11			Perryear ⁵	60	6	38.2	5.00	8.0		Temple ^b	74	15	47.4	0.70		
Temperance	76	19	44.2	3.13	2.5		Pope	68	1	37.6	6.44	5.1		Topaz	78 ^c	96	45.6	0.70	0.5	
Trenton	69	24	47.5	5.45	3.0		Rogersville	68	14	37.8	3.44	3.0		Tulia	68	1	35.5	0.55	5.5	
Trial	76	21	45.8	4.65	T.		Rugby	57	3	35.4	6.56	12.0		Tyler	67	12	41.9	5.29		
Winnisboro	66	18	42.6	4.10	6.5		St. Joseph	66	10	39.4	3.68	2.0		Victoria						
Yemassee	76	25	47.2	4.44			Savannah	61	6	39.6	5.42	1.5		Waco	74	15	45.8	1.00	T.	
Yorkville	66	21	43.4	5.01	6.0		Seawee...	57	11	38.5	5.73	1.5		Waxahachie	69	10	43.0	1.41	0.1	
<i>South Dakota.</i>							Silverlake	60	9	35.2	2.06	5.5		Weatherford	68	9	41.8	0.98	T.	
Aberdeen	45	-26	11.2	0.35	1.0		Springdale	64	10	40.4	3.85	6.5		Wichita Falls						
Alexandria	54	-23	18.9	0.35	3.0		Springfield	68	1	37.8	7.80	6.5		<i>Utah.</i>						
Armour	56	-23	18.2	0.39	2.0		Sylvia	62	0	36.9	7.03	5.2		Alpine						
Ashcroft	53	-30	17.8	0.59	5.5		Tazewell							Blue Creek ¹	48	9	29.4	2.86		
Bowdle	60	-21	9.0	T.	T.		Tellico Plains	65	11	41.6	4.24	1.0		Brigham						
Brookings	47	-27	15.3	0.25			Tracy City	58	7	38.8	6.41	1.5		Corinne	48	-4	30.8	2.25	22.5	
Canton	51			0.06	0.2		Trenton	68	3	39.1	6.60	9.5		Fillmore	57	4	31.0	0.50		
Centerville				0.54	5.1		Tulahoma	62	8	38.6	6.77	5.0		Fort Duchesne	53	-17	17.3	0.20	2.0	
Chamberlain	57	-17	21.3	0.22			Union City	60	1	36.0	8.75	16.0		Frisco	54	11	39.0	0.10	1.0	
Chandler	57	-21	20.1	0.48	1.3		Waynesboro	62	6	38.2	4.30	2.0		Giles	59	-3	33.7	0.28	4.5	
Clark				0.43	1.5		Wildersville	62	6	38.7	7.95	5.5		Grover	51	-7	24.1	0.10	1.0	
Desmet	68	-28	15.4	0.75	4.0		Yukon	62	7	40.2	8.21	0.5		Heber						
Doland	49	-30	14.4	0.59	2.0		<i>Texas.</i>							Huntsville						
Elkpoint	56	-20	21.6	0.14	1.5		Alvin							Leaven	52	-7	27.2	1.43	14.3	
Farmington				0.28	0.8		Anna	69	8	43.6	3.13	0.5		Loa						
Flandreau	49	-26	16.4	0.24	0.8		Anson							Logan	48	10	29.0	1.20		
Forestburg	50	-26	15.8	T.	T.		Austin ^a	75	20	45.6	0.80	T.		Manti	56	-8	26.4	1.90	19.0	
Forest City	62	-26	15.1	0.20	2.0		Austin ^b	68	16	44.5				Millville						
Fort Meade	54	-20	18.8	0.91	9.1		Ballinger	74	11	41.5	0.10	0.5		Minersville	55	8	31.8	0.57	5.5	
Gann Valley	56	-27	16.5	T.	T.		Beaumont	26						Moab	59	4	38.2	0.48	4.8	
Goudyville	48	-27	18.4	0.23	1.0		Beeville	79	22	51.6	3.55			Mount Pleasant	53	-4	27.0	1.40	14.0	
Harney	56 ^d	-18	19.7	0.39	3.8		Bianco	74						Ogden ^a	58	15	33.3	1.25	12.5	
Highbone	50	-27	13.6	0.45	4.5		Brazoria	75	25	52.0	8.68			Pahreh	60	-2	32.3	0.70	7.0	
Hotch City	56	-24	19.4	0.06	T.		Breckenridge	73	9	42.2	T.			Parowan	55	0	30.3	0.12	1.2	
Howard	50	-28	16.5	0.50	1.5		Brenham	71	20	48.0	8.45			Pinto	53	9	27.7	0.25		
Interior	55	-19	19.4	0.10	1.0		Brighton	71	20	48.0	8.45			Promontory ¹	45	4	25.9			
Ipswich ¹	45*	-24	11.1	0.22	1.0		Brownwood							Provо	54	2	32.8	1.54		
Kimball	54	-25	19.4	0.34	3.0		Burnet ¹	70	15	50.0	0.83	1.0		Ridgefield	62	2	31.6	0.30	3.0	
Leslie	58	-21	17.1	0.10	0.5		Camp Eagle Pass	20						St. George	70	8	37.5	0.82		
Menno	56	-23	18.3	0.44	2.5		Coleman	78	10	43.2	1.30	2.0		Scipio	51	-10	26.4	1.40	5.0	
Millbank	48	-24	18.1	0.18	1.3		College Station ²	72						Snowville	44	-1	27.3	1.45	11.0	
Mitchell	55	-24	18.8	0.21			Colorado	72						Soldier Summit	48	-11	22.8	1.70	17.0	
Montrose	48	-27	16.8	0.29	1.0		Columbia	74	28	50.7	8.86			Terrace ¹	37	0	16.9	0.75	7.5	
Nowlin	57	-21	17.8	0.34	2.0		Couroe	73	24	49.4	8.44			Tooele						
Oerlrichs	56	-17	18.8	1.00	7.5		Estelle	71	18	44.8	1.93			Tropic	59	-2	26.5	0.40	18.0	

TABLE II.—Climatological record of voluntary and other cooperating observers—Continued.

Stations.	Temperature. (Fahrenheit.)			Precipita- tion.		Stations	Temperature. (Fahrenheit.)			Precipita- tion.		Stations.	Temperature. (Fahrenheit.)			Precipita- tion.	
	Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.		Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.		Maximum.	Minimum.	Mean.	Rain and melted snow.	Total depth of snow.
<i>Virginia—Cont'd.</i>						<i>West Virginia—Cont'd.</i>						<i>Wyoming—Cont'd.</i>					
Christiansburg	0	0	0	In. 4.07	12.5	Burlington	61	-18	29.8	In. 3.25	9.0	Binford ¹	0	0	0	In. 24.0	In. 23.6
Clarksville				3.95	17.0	Charleston				7.01	6.0	Bitter Creek	49	2	26.0	0.60	6.0
Clifton Forge	54	0	31.2	1.49	T.	Dayton	69	-20	33.4	5.5	8.8	Carbon	47	1	22.9		
Colemans Falls	70	6	39.0	4.91	6.3	Eastbank	62	1	31.5	6.35	3.0	Dome Lake	35	-14	16.3		
Dale Enterprise	62	-11	31.0	1.87	4.0	Elkhorn	66	6	36.2	3.01	6.7	Evanston	38	-7	19.6	1.48	14.8
Dowell	70	8	32.4	4.26	4.0	Fairmont				4.44	12.6	Fort Laramie	58	-20	26.4	0.85	14.5
Dwale				3.96	7.2	Glenville	66	-11	33.4	6.04	8.7	Fort Washakie	56	-13	20.8	0.51	5.1
Farmville	68	7	36.2	3.55	6.0	Grafton	68	-21	34.0	4.87	10.0	Fort Yellowstone	40	-11	20.4	4.21	42.1
Fredericksburg	60	5	35.0	4.61	7.0	Green Sulphur	63	0	34.0	2.58	6.0	Four Bear	52	-18	23.8	0.51	7.8
Grahams Forge	59	8	38.4	2.63	7.9	Harpers Ferry				3.25	8.7	Hecla	60	-2	27.4	0.98	14.1
Hampton	63	17	40.0	2.84	6.0	Hinton ^a				2.96	8.0	Laramie	46	-3	20.6	0.95	9.5
Hot Springs	56			1.72	5.0	Hinton ^b	60	8	34.4		5.0	Lusk	52	-20	22.0	1.90	18.0
Leesburg				1.84	2.2	Huntington	67	-5	32.2	5.77	4.0	Rawlins	39	-7	22.0	1.16	11.6
Lexington	64	0	31.4	3.79	8.4	Kingwood	65	8	30.3	5.37		Sheridan	48	-21	18.0	8.02	20.2
Manassas	60	-2	33.8	3.26	4.0	Marlinton	55	-11	29.6	8.26	4.0	Sundance	60	-16	24.2		
Marion	65	9	35.2	3.10	8.0	Martinsburg	56	5	30.9	2.05	4.0	Thayne	38	-7	26.2	2.98	28.8
Miller School	66	8	36.2	3.64	1.5	Morgantown	68	-8	30.6	4.37	9.3	Wamsutter	44	-7	27.2	0.10	1.0
Monterey	54	-4	28.0	2.00	10.0	New Cumberland	64	0	30.4	2.33		Wheatland	54	-14	28.2	0.60	6.0
Newport News	67	15	41.8	2.05	3.0	New Martinsville	65	-5	33.0	3.88	11.0	<i>Mexico.</i>					
Petersburg	66	6	38.9	2.94	13.6	Oldfields	69	-20	29.8	2.91	8.5	Ciudad P. Diaz	76	24	50.6	0.00	
Quantico	56	0	31.0			Parsons	63	-11	32.4	4.35	3.0	Coatzacoalcos ²					
Radford				5.04	8.0	Philippa				5.29	13.0	Leon de Aldamas	73	32	55.3	0.06	
Richmond (near)	66	8	37.2	4.23	13.0	Point Pleasant	66	-5	33.8	5.29	10.0	Puebla	72	31	52.0	0.55	
Rockymount	63	7	38.0	4.04	7.5	Powellton	67	1	34.2	5.10	5.0	Tampico ²					
Salem	68	10	39.8	3.87	7.0	Romney	56	-12	31.2	2.12	6.5	Topolobampo ¹	77	50	62.0		
Speers Ferry				4.02	5.0	Rowlesburg				3.04	19.0	Vera Cruz ²					
Spottsville	70	1	37.6	3.12	7.5	Upper Tract	60	-14	33.2	2.28	10.5	Porto Rico.					
Stanardsville	60	6	34.8	4.11	8.8	Weston ^a	66	-10	35.1			Cayey	80	53	68.4		
Staunton	62	-4	36.0	3.46	8.0	Weston ^b	66			9.8	6.0	Fajardo	87	65	76.9	4.53	
Stephens City	62	-5	38.6	1.81	7.0	Wheeling ^a				7.4	4.45	Luquillo	81	65	72.9	4.74	
Sunbeam	75	11	42.0	3.49	4.0	Wheeling ^b	64	-1	32.9	2.81	10.0	Mayaguez ²	86	61	73.8		
Tobaccoville	68	5	38.5	4.19	9.0	Wisconsin.				9.8	13.5	Puente de Tierra	89	64	75.9		
Warrenton	56	10	34.9	5.94	8.5	Amherst.	42	-31	9.4	1.30	13.0	Vieques	84	66	74.7	2.16	
Warsaw	64	5	35.7	3.02	4.0	Antigo	40	-36	9.8	0.60	6.0						
Westbrook	62	5	35.5			Barron	38	-40	7.4	0.45	4.5						
Westpoint	67	7	33.0	4.07	8.5	Bayfield	40	-30	11.2	1.55	15.5						
Woodstock	60	-12	32.6	2.16	4.0	Beloit	47	-17	19.9	0.23	3.0						
Wytheville	63	10	35.2	2.35	9.0	Brothead	46	-20	19.5	0.15	T.						
<i>Washington.</i>						Butternut	47	-42	8.6	1.50	15.0						
Aberdeen	54	22	40.8	17.67	5.8	Chilton	40	-35	10.1 ^c	0.90	9.0						
Anacortes				4.80	12.0	Citypoint	45	-29	13.5	1.05	10.5						
Ashford				11.95	18.5	Delavan	44	-8	22.8	0.37	2.2						
Blaine	53	2	33.1	6.50	6.0	Dodgeville	45	-25	16.2	0.99	5.3						
Brinnon	52	11	38.1	12.19	24.1	Easton	41	-10	13.2	1.02	9.6						
Cedar Lake				19.14	17.0	Eau Claire	41	-33	10.6	0.98	9.5						
Cedonia	48	-20	23.4	2.91	32.1	Florence	42	-28	9.8	1.35							
Centerville	57	-1	28.5	3.00	13.5	Fond du Lac	40	-22	16.0	0.60	4.0						
Clearwater	51	21	40.4	24.28	4.8	Grand River Locks				1.28	12.0						
Cle Elum	54	-7	31.0	4.70	36.3	Grantsburg				0.77	7.8						
Colfax	55	-18	32.4	3.27	5.9	Gratiot	46	-22	15.8	0.60	4.0						
Coupeville	55	7	39.2	3.83	19.0	Hartford	42	-23	17.8	0.73	6.0						
Dayton	58	-11	34.8	2.16		Harvey	42	-17	17.8	0.50	4.8						
Ellensburg	55	-20	28.8	2.41		Hayward	41	-18	9.4	1.15	11.6						
Ellensburg (near)	54	-12	27.7	2.07	19.5	Heafford Junction	41	-34	10.6	0.64	6.0						
Fort Simcoe	62	8	31.4	3.71	35.0	Hillsboro	42	-33	15.6	0.92	8.0						
Fort Spokane	48	-23	23.0	3.90	29.0	Knapp	43	-39	10.8	0.65	6.5						
Grandmound	53	5	39.4	11.28	22.0	Koepenick ¹	40	-24	8.7	1.30	13.0						
Hooper	59	-19	33.6	1.69	4.4	Lancaster	42	-23	15.7	0.37	3.5						
Kennewick	65	-18	34.5	1.66	12.2	Lincoln				1.31	11.0						
LaCenter	56	20	39.3	9.02	12.2	Madison	40	-20	16.8	0.39	4.0						
Lakeside	48	-7	25.6	2.94	26.5	Manitowoc	40	-22	18.8	0.83	5.8						
Lind	58	-16	29.1	1.88	13.8	Meadow Valley	46	-34	11.2	0.95	9.5						
Loomis ^d	45	-15	32.8	1.29		Medford	41	-37	8.0	0.80	8.0						
Madrone	55	8	30.6	7.27	22.0	Menasha				1.07	9.8						
Mayfield	54	17	39.8	10.70	11.0	Neillsville	41	-40	10.5	0.95	8.5						
Moxee Valley	54	-15	27.9	7.39	73.5	New Holstein	43	-29	12.8	0.70	7.0						
New Whatcom	58	3	39.2	3.87	13.0	New London	39	-31	12.4	1.04	8.5						
Northbend	54	11	35.9	12.18	8.0	Oconto	41	-27	13.0	1.45	11.5						
Olga	52	15	38.6	4.15	10.0	Osceola	38	-16	6.9	0.90	9.1						
Olympia	57	12	41.0	12.60	28.5	Oshkosh	40	-26	17.2	0.75	7.0						
Orcas Island	52	10	40.0	3.96	18.0	Pepin	43	-32	11.7	0.94	8.0						
Pinehill	60	9	32.8	6.66	29.2	Pine River	40	-30	14.2	1.00	9.0						
Pomeroy	56	4	36.0	2.38	7.2	Portage	40	-21	15.8	0.70	6.0						
Port Townsend	53	18	40.0	2.77	15.0	Port Washington	50	-22	21.2	0.40	8.0						
Pullman	51	-13	30.9	3.88	10.0	Prairie du Chien	52	-20	22.4	0.71	5.5						
Rosalia	51	-26	28.4	3.27	17.3	Prentice ¹	38	-31	8.1	0.81	8.1						
Sedro	51	9	37.0	6.44	9.0	Racine	46	-15	21.8	0.35							
Shoalwater Bay ¹⁰	51	26	33.0	1.26		Sharon	43	-20	17.8	0.28	1.0						
Snohomish	54	3	38.5	7.19	17.0	Shawano	41	-31	12.1	1.70	15.0						
Snoqualmie				11.34		Spooner	45	-10	7.4	1.50	15.0						
Southbend	56	24	41.3	19.83	T.	Stevens Point	45	-27	10.0	0.90	9.0						

TABLE III.—Mean temperature for each hour of seventy-fifth meridian time, January, 1899.

Stations.	1 a. m.	2 a. m.	3 a. m.	4 a. m.	5 a. m.	6 a. m.	7 a. m.	8 a. m.	9 a. m.	10 a. m.	11 a. m.	Noon.	1 p. m.	2 p. m.	3 p. m.	4 p. m.	5 p. m.	6 p. m.	7 p. m.	8 p. m.	9 p. m.	10 p. m.	11 p. m.	Midnt.	Mean.	
Bismarck, N. Dak.	5.5	5.5	5.1	5.1	5.1	5.0	4.9	4.7	4.0	4.1	5.6	8.9	11.5	14.2	15.6	16.7	16.6	15.7	13.9	11.5	9.5	7.9	7.1	6.2	6.7	
Boston, Mass.	26.7	26.1	25.4	25.2	24.7	24.6	24.4	25.2	26.3	26.1	29.8	32.1	33.5	34.2	34.4	33.6	32.7	31.5	30.4	29.5	28.8	28.3	27.7	26.9	26.8	
Buffalo, N. Y.	24.3	23.8	23.0	22.0	22.4	21.9	22.0	22.0	22.5	22.8	24.3	25.8	26.5	27.0	27.3	27.2	26.6	26.1	26.2	25.8	25.5	25.1	24.6	24.7	24.7	
Chicago, Ill.	22.1	22.0	21.1	21.8	22.0	21.7	21.8	21.2	21.8	21.3	21.9	22.3	22.4	24.4	25.3	26.0	26.3	26.2	25.8	24.5	23.9	22.4	22.9	22.5	23.3	
Cincinnati, Ohio	30.5	30.1	29.0	28.8	28.5	28.3	28.0	29.7	28.4	29.5	31.2	33.1	34.4	35.3	35.9	36.5	35.9	35.0	34.8	33.5	32.8	32.3	31.4	32.0	32.0	
Cleveland, Ohio	24.9	24.2	23.7	23.6	23.2	23.1	23.3	23.7	24.8	26.0	26.9	28.1	29.0	29.5	29.5	29.7	29.3	28.6	28.0	27.2	26.4	26.0	25.3	26.8	26.8	
Detroit, Mich.	22.5	22.0	21.6	21.3	21.2	21.1	21.5	21.9	23.0	24.0	25.9	26.9	27.5	27.8	27.1	26.7	25.9	25.4	24.7	24.1	23.4	22.8	23.9	23.9	23.9	
Dodge, Kans.	26.5	25.6	25.1	25.2	24.2	23.8	23.2	21.8	20.9	22.4	20.2	20.7	24.2	27.6	27.8	27.1	26.7	26.0	25.6	24.4	23.8	23.1	22.7	22.0	21.0	
Eastport, Me.	20.2	20.0	19.9	19.7	19.8	19.8	18.7	18.6	18.8	19.3	20.4	21.5	22.7	23.5	23.9	24.0	23.3	22.7	22.2	22.0	21.6	21.4	20.9	20.8	21.0	
Galveston, Tex.	52.6	52.6	52.5	52.2	51.6	51.2	50.7	50.4	49.9	50.4	51.9	53.6	54.3	54.7	55.1	55.5	55.9	54.4	53.8	53.4	53.0	53.0	53.0	53.0	53.0	
Havre, Mont.	18.9	14.5	14.1	14.4	14.0	14.2	13.8	13.7	13.3	13.8	14.1	14.1	15.9	16.7	17.8	19.1	19.5	19.6	18.1	16.1	14.5	13.8	13.8	15.2	15.2	
Kansas City, Mo.	29.8	29.0	28.5	28.2	27.2	26.7	26.3	25.5	24.4	25.2	27.1	28.9	30.7	32.8	34.2	35.0	35.7	35.2	33.9	33.0	31.8	30.8	30.6	30.0	30.0	
Key West, Fla.	69.0	69.0	68.8	68.7	68.6	68.5	68.6	69.0	70.3	71.3	73.4	73.4	73.1	73.0	72.9	72.0	70.8	70.2	69.6	69.5	69.3	69.0	69.0	70.4	70.4	
Marquette, Mich.	12.8	12.8	12.0	11.7	11.6	11.5	11.6	11.5	11.4	12.1	13.4	14.6	15.8	16.8	17.3	17.4	17.0	16.1	15.3	14.6	13.6	13.2	12.9	13.6	13.7	
Memphis, Tenn.	38.6	37.5	37.5	37.2	36.7	36.3	36.0	35.7	35.9	36.9	38.7	40.3	41.8	42.9	44.1	45.1	45.2	44.6	43.4	42.8	41.2	40.5	39.5	39.9	39.9	
Mt. Tamalpais, Cal.	47.2	47.3	46.8	46.6	46.6	46.5	46.4	46.5	46.5	46.2	46.5	47.1	48.1	48.6	49.1	49.4	49.1	49.1	47.7	47.8	47.7	47.4	47.5	47.5	47.5	
New Orleans, La.	51.2	50.7	50.1	50.1	49.6	49.4	49.2	48.8	48.5	49.2	51.3	52.5	52.0	50.5	51.7	52.8	53.0	53.7	53.6	53.6	52.3	51.7	52.7	52.7	52.7	
New York, N. Y.	29.8	28.6	28.1	27.5	27.1	27.2	27.8	28.2	29.3	29.5	30.5	31.0	33.5	34.5	35.0	34.4	34.0	33.3	32.5	31.5	31.1	30.8	30.7	30.7	30.7	
Philadelphia, Pa.	80.7	80.2	79.4	78.8	78.4	78.4	78.1	78.5	79.2	79.0	81.0	82.4	84.1	85.0	85.7	86.4	87.4	87.7	88.0	88.2	88.2	88.2	88.1	88.1	88.1	
Pittsburg, Pa.	29.6	29.3	28.9	28.5	28.0	27.7	27.3	27.9	29.4	29.4	31.1	32.7	34.1	34.6	35.6	35.0	34.4	33.1	32.8	31.9	31.4	30.8	31.2	31.2	31.2	
Portland, Oreg.	40.2	40.4	40.3	39.8	39.5	39.5	39.8	39.5	39.8	39.0	38.9	38.7	39.4	39.9	40.4	41.6	42.4	42.9	43.0	42.5	41.7	41.1	40.4	40.5	40.5	
St. Louis, Mo.	30.9	30.5	30.0	29.7	29.1	28.9	28.8	28.6	29.0	29.0	30.7	32.6	34.7	36.5	37.5	37.4	36.9	35.7	35.0	34.7	33.7	33.0	31.9	32.2	32.2	
St. Paul, Minn.	13.0	12.1	11.2	10.5	9.8	9.2	8.6	7.7	7.3	7.2	10.0	12.5	14.3	16.1	17.6	18.7	18.8	17.8	16.9	16.5	15.2	14.2	12.9	12.9	12.9	
Salt Lake City, Utah	32.4	31.7	31.6	31.2	30.7	30.6	31.4	30.6	30.6	31.2	32.6	34.4	35.7	36.5	37.7	38.0	37.7	37.8	36.6	34.6	33.7	32.7	32.9	33.4	33.4	
San Diego, Cal.	58.0	52.5	52.0	51.7	51.7	51.0	50.5	50.3	49.7	50.7	53.8	57.0	58.7	59.9	60.8	60.9	61.6	59.9	58.7	57.1	56.2	54.8	53.8	54.9	54.9	
San Francisco, Cal.	52.4	52.4	51.9	51.8	51.1	50.7	50.3	49.7	49.0	49.6	49.6	50.5	52.0	53.5	54.9	56.2	56.7	56.0	55.4	54.1	53.9	53.1	52.6	52.6	52.6	
Santa Fe, N. Mex.	22.8	21.9	21.9	21.4	20.6	20.2	19.4	19.5	18.5	20.2	24.3	27.5	29.4	31.8	33.5	34.4	35.0	34.8	32.1	29.6	26.4	24.2	25.9	25.9	25.9	
Savannah, Ga.	47.6	47.3	46.6	46.0	45.6	45.8	45.1	45.1	46.3	48.7	51.6	53.8	54.9	55.9	56.1	55.2	53.4	51.5	50.7	49.7	49.0	48.4	47.7	49.0	47.7	
Washington, D. C.	31.0	30.6	30.0	29.3	28.7	28.4	28.1	28.0	29.4	31.3	33.6	35.4	36.7	38.2	39.0	39.2	38.9	37.5	35.9	34.7	34.0	33.9	32.8	31.9	33.2	
West Indies.																										
Basseterre, St. Kitts	73.9	74.0	73.7	73.9	74.0	74.5	74.9	75.9	76.9	78.2	79.1	79.6	79.4	79.0	78.8	77.6	75.5	75.6	75.4	75.2	74.9	74.7	74.1	76.0	76.0	
Bridgetown, Bar.	73.1	72.9	72.8	72.7	73.0	73.6	76.4	77.7	79.5	80.4	80.9	81.2	81.3	81.7	81.8	81.7	81.2	80.6	79.8	74.8	73.9	73.5	72.8	72.6	72.6	
Colon, U. S. C.	76.9	76.6	76.4	76.4	76.1	76.1	75.6	76.7	78.6	79.7	80.8	81.9	81.5	81.8	81.1	80.0	79.1	79.1	78.5	78.2	77.6	77.1	78.4	78.4	78.4	
Kingston, Jamaica	70.0	69.7	69.7	69.8	69.4	69.1	68.6	69.4	70.9	71.6	80.1	81.6	82.8	82.1	81.6	80.9	79.9	79.2	78.7	78.3	78.3	78.3	78.3	78.3	78.3	
Port of Spain, Trin.	72.0	71.4	71.5	71.8	71.7	72.5	75.4	78.0	80.6	82.3	83.3	82.6	82.5	81.7	80.9	79.1	77.7	76.6	74.9	74.6	73.9	73.5	72.6	72.6	72.6	
Roseau, Dominica																										
San Juan, P. R.	71.6	71.5	71.0	71.0	70.8	70.8	72.3	74.0	75.7	77.7	78.8	78.9	78.6	78.8	78.2	77.2	75.8	75.2	74.4	73.8	73.8	73.7	71.2	71.5	74.4	
Santiago de Cuba	70.8	70.2	69.8	69.2	69.0	69.0	68.8	72.1	76.7	80.9	83.7	84.7	84.9	84.8	83.6	82.0	80.4	77.9	76.5	75.1	74.1	73.9	73.3	73.1	75.0	
Santo Domingo, S. D.	67.9	67.8	67.6	66.9	66.9	67.7	67.6	67.6	75.7	78.4	79.3	80.4	80.5	79.5	77.8	77.8	76.9	75.1	73.8	70.3	69.4	68.4	68.2	72.8	72.8	
Willemstad, Curaçao	75.5	75.1	74.9	74.9	74.8	75.1	76.0	77.3	78.7	80.1	80.5	80.5	80.7	80.8	79.7	79.0	78.3	77.2	76.8	76.0	76.0	75.9	75.4	77.3	77.3	

TABLE IV.—Mean pressure for each hour of seventy-fifth meridian time, January, 1899.

Stations.	1 a. m.	2 a. m.	3 a. m.	4 a. m.	5 a. m.	6 a. m.	7 a. m.	8 a. m.	9 a. m.	10 a. m.	11 a. m.	Noon.	1 p. m.	2 p. m.	3 p. m.	4 p. m.	5 p. m.	6 p. m.	7 p. m.	8 p. m.	9 p. m.	10 p. m.	11 p. m.	Midnt.	Mean.	
Bismarck, N. Dak.	28.175	.175	.174	.175	.174	.163	.161	.158	.153	.157	.160	.155	.158	.124	.122	.137	.140	.148	.155	.157	.160	.166	.166	.166	.166	.166
Boston, Mass.	29.988	.943	.941	.941	.943	.955	.971	.984	.992	.997	.978	.962	.949	.950	.954	.956	.962	.966	.968	.968	.968	.969	.969	.969	.969	.969
Buffalo, N. Y.	29.225	.236	.245	.248	.240	.																				

TABLE V.—Average wind movement for each hour of seventy-fifth meridian time, January, 1899.

Stations.	1 a. m.	2 a. m.	3 a. m.	4 a. m.	5 a. m.	6 a. m.	7 a. m.	8 a. m.	9 a. m.	10 a. m.	Noon.	1 p. m.	2 p. m.	3 p. m.	4 p. m.	5 p. m.	6 p. m.	7 p. m.	8 p. m.	9 p. m.	10 p. m.	11 p. m.	Midnight.	Mean.				
Abilene, Tex.	10.9	10.8	10.0	10.2	10.3	9.5	9.8	9.7	9.4	9.5	10.6	12.6	14.2	14.0	13.5	18.1	19.0	12.0	11.6	9.5	9.0	9.6	10.0	10.0	10.9			
Albany, N. Y.	7.9	7.9	7.8	8.1	7.9	8.0	9.0	9.0	8.8	9.1	10.0	9.8	10.2	11.0	11.4	9.5	9.9	8.8	8.7	8.1	8.2	7.8	9.0	7.7	8.2			
Alpena, Mich.	9.0	9.2	9.8	9.6	9.2	9.3	9.4	9.2	9.5	10.5	11.8	12.3	13.0	13.2	13.3	10.8	10.1	10.4	10.9	10.9	11.5	10.5	9.9	10.7	10.7			
Amarillo, Tex.																												
Atlanta, Ga.	10.1	10.4	10.5	10.4	10.2	9.8	8.7	9.3	9.5	9.6	10.0	10.1	10.7	10.4	10.6	10.6	10.3	9.5	8.3	9.6	9.2	9.6	9.9	10.1	9.9			
Atlantic City, N. J.	11.8	12.5	12.4	12.4	12.8	13.0	12.9	13.8	13.3	14.1	14.8	13.9	14.0	14.0	13.6	12.2	10.5	10.6	10.6	10.5	10.9	11.4	11.5	12.5				
Augusta, Ga.	5.6	5.4	5.2	5.8	5.9	5.8	6.1	5.7	5.9	6.3	7.1	7.6	8.7	9.1	8.8	8.5	8.2	7.2	5.8	5.4	5.3	5.2	5.6	5.6	6.5			
Baker City, Oreg.	4.9	5.6	6.2	6.0	5.5	5.5	5.7	5.6	5.6	6.0	5.7	6.2	5.6	5.8	4.8	4.7	5.0	4.5	4.3	4.4	4.8	5.2	5.1	5.2	5.3			
Baltimore, Md.	5.2	5.2	5.3	5.0	5.0	5.0	4.9	5.0	5.6	5.9	5.9	5.9	6.2	5.9	5.6	4.8	4.7	4.2	4.0	4.2	4.7	4.8	4.7	5.2				
Bismarck, N. Dak.	8.2	7.9	7.8	8.4	7.5	7.4	7.7	7.3	8.2	8.1	8.8	10.7	12.5	13.8	15.5	15.6	15.8	13.9	12.4	10.1	10.7	11.0	10.3	9.3	10.4			
Block Island, R. I.	15.6	14.9	15.3	15.0	15.2	15.8	16.1	16.5	16.9	16.1	16.4	16.8	17.5	17.9	17.2	16.2	15.8	14.9	14.5	14.5	15.2	14.5	16.1	15.9				
Boise, Idaho	5.5	5.2	4.8	5.0	5.1	4.9	4.5	4.2	4.3	4.5	4.6	4.4	4.8	6.0	6.5	6.9	7.0	6.4	5.8	4.8	4.7	4.8	4.6	5.6	5.5			
Boston, Mass.	13.2	13.0	11.8	11.5	11.4	12.0	12.6	13.2	13.8	13.5	14.1	14.4	14.9	14.9	14.7	14.3	13.2	13.2	13.3	12.7	12.9	12.7	13.0	11.5	13.0			
Buffalo, N. Y.	20.7	19.5	20.1	20.4	20.9	20.4	19.4	18.9	18.9	20.5	20.6	21.4	22.0	20.5	20.5	20.5	20.5	20.5	20.5	20.1	20.0	20.7	20.8	20.0	20.0			
Cairo, Ill.	10.3	10.7	10.6	10.5	10.5	10.0	9.7	10.2	10.2	10.3	11.9	12.2	12.4	12.0	11.5	11.3	11.2	10.3	9.4	9.2	9.8	10.8	11.3	10.8	10.7			
Cape Henry, Va.	13.2	13.0	13.2	13.1	12.6	14.0	14.8	15.0	15.4	15.3	14.3	14.0	14.2	15.0	15.2	14.6	13.5	13.2	13.7	13.9	14.6	14.3	14.1	14.1	14.1			
Carson City, Nev.	7.5	8.2	4.9	4.7	5.4	5.6	5.5	5.2	5.7	5.2	5.2	4.6	4.8	5.2	5.6	5.9	6.7	7.1	8.7	8.0	7.7	7.5	6.7	6.8	6.1			
Charleston, S. C.	11.2	11.1	11.3	11.7	11.2	11.6	12.0	12.0	12.4	12.1	12.1	12.3	12.3	11.6	11.2	10.4	9.8	10.0	9.8	9.8	10.5	10.8	11.3	11.3				
Charlotte, N. C.	7.6	7.6	7.2	7.1	7.3	6.8	7.0	6.8	7.1	7.5	8.2	8.5	9.2	9.5	9.1	9.4	8.5	8.9	7.0	7.4	7.6	7.2	7.1	7.1	7.1			
Chattanooga, Tenn.	7.4	7.1	7.2	6.8	6.6	6.2	5.9	5.8	6.2	7.4	7.9	8.6	9.9	9.9	9.2	8.4	7.5	7.4	7.5	7.5	7.4	7.4	6.8	7.6	7.6			
Cheyenne, Wyo.	13.8	13.0	12.6	12.9	13.8	12.8	14.3	14.0	14.7	14.7	17.1	18.2	20.8	21.2	20.8	20.8	20.1	17.6	14.9	14.2	13.8	13.2	14.4	15.7				
Chicago, Ill.	19.9	19.8	19.3	18.7	18.5	17.9	17.7	18.8	19.4	20.8	20.8	21.2	21.2	20.8	20.8	20.3	19.6	19.4	19.9	19.7	19.7	18.7	19.6	19.6				
Cincinnati, Ohio	8.9	8.5	8.9	8.3	7.5	7.8	7.9	8.5	8.8	8.7	9.6	9.8	10.2	10.8	10.2	9.8	9.2	8.8	8.5	8.7	8.1	8.3	8.8	8.9				
Cleveland, Ohio	18.4	18.8	18.6	18.0	18.3	18.0	17.3	17.5	17.5	17.8	17.6	17.3	18.3	18.6	18.6	17.3	16.9	17.0	17.1	17.5	17.7	17.7	18.2	17.8				
Columbia, Mo.	8.1	8.7	8.2	8.1	8.0	7.8	8.2	8.0	7.5	8.7	9.8	10.2	10.7	11.3	11.5	11.8	11.5	10.2	9.4	8.7	9.0	8.8	9.0	8.6	9.2			
Columbus, Ohio	9.3	9.2	8.8	9.0	9.0	8.6	8.5	9.3	8.9	9.3	9.7	9.7	10.5	10.7	10.8	10.2	10.1	9.6	9.5	9.3	9.0	8.8	9.0	9.3	9.4			
Concordia, Kans.	8.0	8.1	8.0	7.7	7.8	7.8	7.9	7.7	8.9	9.3	9.6	9.8	10.0	10.7	10.5	9.4	9.0	7.5	6.6	6.6	6.5	7.8	7.9	8.2				
Corpus Christi, Tex.	8.8	8.5	8.6	9.7	9.4	9.4	9.4	9.6	9.6	10.3	10.6	10.5	10.6	10.8	10.9	10.8	10.8	10.5	9.7	9.3	8.9	8.7	8.8	8.8				
Davenport, Iowa	7.4	7.8	7.1	7.0	7.0	7.4	7.4	7.4	7.5	8.8	9.7	10.1	10.8	11.0	11.0	10.7	10.5	9.1	8.3	7.6	7.5	7.5	7.5	8.5				
Denver, Colo.	9.5	9.8	9.4	8.9	8.6	8.6	8.4	8.9	8.3	8.6	9.0	9.7	10.7	10.7	10.7	10.7	10.7	9.8	9.0	9.2	8.2	8.0	8.9	9.0				
Des Moines, Iowa	7.9	7.3	7.4	6.9	7.4	7.5	7.0	7.6	7.8	8.4	9.1	10.1	10.6	11.4	12.0	12.4	11.5	9.8	8.8	7.7	7.8	7.9	8.4	8.1	8.8			
Detroit, Mich.	7.9	12.4	11.6	11.7	12.0	11.8	12.4	12.6	14.0	14.1	14.0	14.0	14.8	14.8	14.8	14.8	13.8	13.0	12.6	13.6	13.6	13.8	13.5	13.1				
Dodge, Kans.	9.1	9.5	9.8	10.8	10.0	9.5	9.4	9.6	9.1	9.6	11.0	11.9	12.7	13.3	14.1	14.3	14.8	13.9	12.6	9.9	9.8	10.2	10.0	10.8				
Dubuque, Iowa	7.0	7.0	7.1	6.8	6.8	6.0	6.4	6.8	7.8	7.5	8.5	9.7	10.5	10.8	11.1	11.3	10.8	8.9	7.8	8.1	7.8	7.7	7.7	8.2				
Duluth, Minn.	9.2	8.5	9.2	9.1	9.8	10.8	11.0	11.6	11.5	11.5	11.9	11.9	11.5	11.5	11.8	10.8	10.5	9.6	9.5	8.8	8.9	8.5	10.2					
Eastport, Me.	14.6	13.9	14.2	13.8	14.6	14.1	13.4	13.2	13.0	13.6	13.5	13.8	14.5	14.2	14.3	14.4	14.4	15.3	15.7	14.7	15.0	16.0	15.8	15.4	14.4			
El Paso, Tex.	9.6	9.2	8.6	8.8	8.5	9.5	9.1	9.0	9.7	9.0	10.1	11.6	11.6	10.5	11.6	11.6	13.6	13.0	13.6	13.6	13.6	13.8	13.9	13.5	13.1			
Erie, Pa.	14.7	14.5	14.9	15.1	15.0	14.6	14.3	13.9	14.0	15.3	15.5	15.2	14.4	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	15.0	14.8	14.4				
Escanaba, Mich.	8.2	8.4	7.6	7.9	7.4	7.4	7.6	7.7	7.8	8.6	8.8	10.1	10.2	10.8	10.5	10.5	10.5	9.5	9.5	9.5	9.0	9.0	8.8	8.2	8.9			
Eureka, Cal.	6.2	5.6	5.2	4.7	5.8	5.1	4.7	5.2	4.8	4.8	5.5	7.2	8.4	9.2	9.5	9.5	7.2	7.2	6.2	5.4	5.5	5.5	5.5	5.5	5.8			
Evansville, Ind.	9.3	9.2	8.9	8.9	8.5	8.5	8.7	8.5	8.5	8.5	9.4	10.0	10.1	10.5	10.5	10.2	10.2	9.7	8.6	8.2	8.5	8.7	8.9	9.4	9.2			
Fort Canby, Wash.	17.6	17.6	17.4	17.0	18.5	18.5	17.5	17.4	16.8	17.6	16.8	18.3	18.7	20.0	20.0	19.6	19.6	18.8	18.7	18.2	17.6	16.9	17.1	18.1				
Fort Smith, Ark.	6.7	6.7	6.5	6.7	7.1	7.0	7.3	6.9	7.2	7.3	8.8	8.2	7.6	7.6	7.6	7.6	8.7	8.2	6.9	6.4	6.4	6.4	6.4	6.4	7.4			
Fresno, Cal.	3.2	3.4	3.4	3.6	3.6	3.5	3.8	3.6	3.6	3.5	3.6	3.6	3.9	4.0	4.4	4.2	4.4	4.2	4.1	3.6	3.2	3.0	3.1	3.2	3.6			
Galveston, Tex.	9.3	9.1	9.1	9.3	9.7	9.8	10.0	10.4	10.4	11.0	10.9	11.3	10.7	10.8	10.5	10.6	10.6	10.7	10.3	10.3	9.6	9.4	9.2	10.1				
Grand Haven, Mich.	13.3	12.5	13.4	13.4	13.5	13.8	14.3	14.2	14.1	14.1	14.4	14.9	14.5	14.0	14.7	14.6	14.6	14.8	14.8	14.0	14.4	14.7	14					

TABLE V.—Average wind movement, etc.—Continued.

Stations.	1 a. m.	2 a. m.	3 a. m.	4 a. m.	5 a. m.	6 a. m.	7 a. m.	8 a. m.	9 a. m.	10 a. m.	11 a. m.	Noon.	1 p. m.	2 p. m.	3 p. m.	4 p. m.	5 p. m.	6 p. m.	7 p. m.	8 p. m.	9 p. m.	10 p. m.	11 p. m.	Midnight.	Mean.	
Norfolk, Va.	9.5	8.7	8.5	8.5	8.5	8.6	9.7	9.5	9.2	10.2	10.9	10.4	11.0	11.6	11.7	11.5	10.5	9.1	9.6	9.9	10.0	9.3	9.3	8.8	9.8	
Northfield, Vt.	9.0	10.1	10.5	9.9	10.5	10.2	9.8	10.0	9.9	10.4	11.2	12.2	12.9	12.2	11.1	9.7	8.7	9.7	10.1	9.9	9.4	9.1	8.7	10.3		
North Platte, Nebr.	7.8	8.0	8.1	7.4	7.7	7.3	7.1	6.8	7.2	7.2	7.5	8.3	10.3	12.1	13.0	13.7	12.6	10.9	8.6	8.6	8.5	7.8	8.0	8.4	8.9	
Oklahoma, Okla.	8.6	8.8	9.5	9.6	10.0	10.3	10.1	10.4	10.1	10.3	12.3	13.0	13.4	14.1	14.2	13.7	13.0	11.5	9.3	9.1	8.9	9.3	9.5	9.1	10.8	
Omaha, Nebr.	7.5	7.7	7.6	8.3	8.6	8.5	7.4	8.2	8.8	8.9	9.3	10.2	10.1	10.1	10.2	10.3	9.0	7.5	6.7	7.8	7.7	7.9	8.0	8.6		
Oswego, N. Y.	15.0	15.1	15.6	15.5	15.2	15.5	15.7	15.4	15.1	14.6	14.6	14.5	15.0	14.9	14.3	13.5	13.2	13.0	13.0	13.7	14.0	14.1	14.3	14.5	15.3	14.6
Palestine, Tex.	6.7	6.8	6.8	6.7	7.0	7.1	7.5	7.5	8.3	8.5	8.3	8.4	9.1	9.8	9.2	9.0	8.0	6.6	6.0	5.4	6.3	6.4	6.6	7.4	7.4	
Parkersburg, W. Va.	6.6	6.2	6.4	6.7	6.8	6.8	6.9	6.7	7.3	7.7	8.0	8.5	8.6	8.9	8.1	7.2	6.5	6.1	6.2	6.2	5.8	6.1	6.2	7.0		
Pensacola, Fla.	10.7	10.3	10.2	10.5	10.5	9.7	9.5	10.4	10.5	11.5	12.5	12.3	11.3	10.9	11.1	11.4	10.7	10.1	9.4	9.2	9.9	10.2	10.1	10.6	10.6	
Philadelphia, Pa.	10.5	10.1	10.5	10.7	10.5	10.2	10.4	10.1	11.0	10.9	11.5	11.6	12.1	11.9	11.6	11.1	10.3	9.9	9.5	9.5	9.8	10.0	10.0	10.7		
Phenix, Ariz.	8.5	3.7	3.5	3.4	3.2	3.5	3.8	3.7	4.1	4.1	4.1	4.2	4.8	4.3	4.5	4.2	3.8	4.0	3.7	3.0	2.9	3.3	3.2	3.0	3.7	
Pierre, S. Dak.	8.3	8.5	8.0	7.2	6.8	6.7	6.4	6.3	6.4	6.1	7.8	10.2	12.6	13.7	14.2	14.0	14.3	13.4	10.9	10.1	9.2	9.5	9.6	9.7	9.6	
Pittsburg, Pa.	6.5	6.6	6.6	6.6	6.6	6.5	6.6	6.7	7.0	7.1	8.2	8.7	9.1	8.5	8.0	7.7	7.3	7.1	6.9	7.1	7.2	7.0	6.7	7.3	7.3	
Point Reyes Lt., Cal.	13.6	13.6	14.5	13.9	13.7	12.9	11.7	11.5	12.7	13.6	13.1	13.4	13.8	14.2	12.6	13.5	14.5	14.5	14.2	13.8	14.3	14.8	14.6	13.6		
Port Huron, Mich.	18.7	13.9	13.4	12.5	12.8	12.9	13.2	13.6	14.9	15.9	15.7	16.0	15.6	14.9	14.7	13.5	12.9	12.7	13.3	13.9	14.1	14.0	14.0	14.0		
Port Crescent, Wash.	3.6	3.7	3.8	3.4	3.4	3.4	3.8	3.3	3.1	3.3	3.8	3.3	3.3	3.8	3.8	4.4	4.4	4.8	4.5	4.1	3.8	3.7	3.9	3.8	3.8	3.7
Portland, Me.	6.9	7.5	7.3	7.2	7.5	8.1	7.9	7.9	8.4	8.2	8.5	9.0	9.0	8.8	9.0	8.5	8.4	7.6	7.4	7.1	6.7	6.6	6.4	7.8	7.8	
Portland, Oreg.	8.1	8.8	8.6	8.3	9.3	9.8	9.9	9.6	10.0	9.5	10.2	10.3	11.1	11.3	10.4	9.6	9.7	10.5	9.4	9.8	8.3	7.7	7.8	9.4	9.4	
Raleigh, N. C.	6.9	6.5	6.3	6.6	6.5	5.9	6.2	6.1	6.3	7.3	7.9	8.4	8.9	8.9	8.8	8.4	7.8	6.2	5.6	5.8	5.6	5.7	5.8	6.0	6.9	
Rapid City, S. Dak.	6.9	6.8	6.9	5.6	6.1	6.5	6.6	6.2	6.3	7.8	7.5	7.2	8.0	8.7	9.8	10.8	10.8	9.6	8.4	7.3	7.8	7.2	6.3	7.5		
Red Bluff, Cal.	7.0	6.9	7.2	6.6	6.8	6.9	7.2	6.9	6.6	6.6	7.1	7.3	7.5	8.9	9.0	9.9	9.9	10.1	9.8	9.5	8.8	8.2	7.8	7.2	7.8	
Richmond, Va.	6.6	6.5	6.4	6.6	6.3	6.1	6.5	6.2	6.8	7.1	8.1	9.1	8.9	8.6	8.3	8.0	7.0	6.4	6.3	6.1	5.9	6.1	5.9	7.0		
Rochester, N. Y.	10.2	9.8	9.9	9.7	9.9	9.6	9.9	9.5	9.3	9.4	10.1	10.4	10.9	10.8	10.5	9.8	9.9	9.5	9.8	9.8	10.1	10.1	10.8	10.0		
Roseburg, Oreg.	2.9	2.6	2.8	3.1	3.0	2.9	3.6	3.3	3.0	3.6	3.3	3.1	3.0	3.4	4.2	5.0	5.3	4.9	4.5	3.6	3.3	2.8	2.6	2.8	3.5	
Sacramento, Cal.	10.1	10.2	10.5	10.3	10.5	9.4	9.5	9.1	9.4	9.1	9.5	9.5	10.6	11.1	11.2	11.5	11.4	10.9	10.1	9.5	9.8	9.9	10.2	10.2	10.2	
St. Louis, Mo.	9.8	9.3	9.4	9.3	9.4	9.6	9.8	10.5	10.5	10.9	10.7	10.6	11.1	11.0	11.4	12.1	12.4	11.5	11.2	11.2	11.7	10.9	10.8	10.3	10.7	
St. Paul, Minn.	7.6	7.9	8.4	7.9	7.8	7.7	8.1	8.2	8.3	8.0	9.1	9.7	9.9	10.2	10.7	10.2	9.9	8.7	7.8	7.1	7.5	7.8	8.3	7.9	8.5	
Salt Lake City, Utah.	4.7	4.8	4.2	4.3	5.7	5.5	5.2	5.2	5.1	5.3	5.4	6.0	6.0	7.0	7.2	8.0	8.4	7.8	6.6	5.7	5.0	5.9	5.5	5.3	6.0	
San Antonio, Tex.	8.1	7.6	7.3	8.2	8.2	8.8	8.6	8.4	8.7	8.1	9.0	10.6	11.0	10.8	10.8	9.9	10.4	10.2	8.9	9.5	9.8	9.0	8.8	9.2		
San Diego, Cal.	3.8	4.0	3.9	4.1	4.4	4.1	4.1	4.5	4.2	4.6	3.8	3.0	3.8	4.3	5.9	7.6	9.2	9.6	9.8	7.6	5.1	3.8	3.9	4.0	5.1	
Sandusky, Ohio	11.1	10.6	10.1	9.6	9.5	9.4	9.1	9.7	10.8	11.2	10.9	11.0	11.2	11.2	11.1	10.4	10.1	9.7	9.8	9.8	10.8	10.3	10.1	10.1		
Sandy Hook, N. J.	19.0	18.6	18.5	19.0	19.3	19.2	18.8	18.9	19.0	19.3	18.5	19.7	19.1	19.3	18.3	16.8	16.4	16.1	16.4	17.2	16.7	17.1	17.8	18.2		
San Francisco, Cal.	7.8	7.2	6.7	6.2	6.9	6.5	6.3	6.6	5.9	6.9	7.3	7.5	8.6	8.4	8.5	9.7	10.4	9.2	9.4	9.0	9.0	7.8	8.3	8.3	7.9	
San Luis Obispo, Cal.	4.7	4.8	5.3	5.5	4.8	4.2	4.5	4.5	4.8	4.4	5.0	4.4	5.0	5.7	7.2	8.9	9.2	9.3	9.5	8.8	5.4	5.6	6.1	6.1		
Santa Fe, N. Mex.	5.1	4.3	4.7	5.5	5.3	5.6	6.3	6.5	7.3	7.7	8.2	10.1	10.8	10.6	10.2	10.6	10.8	10.1	7.7	7.7	8.0	8.9	5.1	7.1		
Sault Ste. Marie, Mich.	8.6	8.3	7.9	7.6	7.4	7.5	7.5	6.9	6.8	7.9	8.0	9.2	9.5	9.8	9.9	9.9	8.4	8.7	8.9	8.4	8.4	9.5	9.3	8.5		
Savannah, Ga.	8.0	8.7	8.9	9.1	8.8	8.7	9.0	8.8	9.1	9.7	10.1	10.0	9.6	10.0	9.9	9.9	9.5	8.6	8.1	8.5	8.5	8.3	7.9	8.0		
Seattle, Wash.	5.4	5.3	5.8	5.9	6.0	6.6	6.7	7.3	7.4	7.3	7.0	6.5	6.8	7.1	7.2	7.4	7.8	7.6	6.7	7.4	7.8	6.9	7.0	6.7		
Shreveport, La.	7.0	7.1	6.9	6.5	7.1	7.0	7.3	7.1	7.3	8.6	9.3	9.1	9.1	8.7	8.5	8.7	8.9	8.4	8.6	8.6	7.1	7.1	7.5	7.8		
Sioux City, Iowa	11.4	12.1	12.5	12.0	12.1	12.9	12.3	12.5	12.6	12.9	12.1	12.5	12.7	13.0	12.5	12.9	12.8	12.3	11.6	12.2	11.9	13.2	13.2	13.2		
Spokane, Wash.	5.0	4.7	4.8	4.5	4.2	4.4	4.8	5.7	5.0	5.5	5.7	6.0	5.9	6.8	6.6	6.6	6.7	6.5	6.4	5.8	5.5	5.5	5.5	5.5		
Springfield, Ill.	9.8	9.5	9.4	9.1	9.3	9.1	9.5	9.4	9.6	10.2	10.9	10.7	10.6	11.5	11.5	11.5	12.0	11.9	11.9	10.9	10.4	10.5	9.8	10.1		
Springfield, Mo.	11.5	10.9	10.8	10.8	10.7	11.0	10.9	10.4	10.5	10.7	11.5	12.0	12.0	12.6	12.5	13.0	12.8	11.8	11.8	11.4	11.9	11.6	11.5			
Tacoma, Wash.	6.8	6.3	6.1	5.8	6.5	7.0	6.7	6.6	6.3	7.0	7.1	7.9	7.7	8.9	9.6	9.6	9.0	8.4	7.4	6.5	6.2	6.7	7.1	7.1		
Tampa, Fla.	6.9	6.1	6.2	6.0	5.9	6.1	6.6	6.6	6.9	7.2	7.8	8.9	8.9	9.6	9.6	9.6	9.0	8.4	7.4	6.5	6.0	5.7	6.4	7.1		
Toledo, Ohio	12.5	13.2	11.8	11.7	11.6	11.8	12.4	12.8	13.5	13.7	14.0	14.5	14.3	14.2	14.2	13.6	12.1	12.3	12.7	13.0	12.5	12.8				
Vicksburg, Miss.	7.8	8.0	8.4	8.2	8.0	7.6	7.7	8.2	8.0	8.5	8.2	8.4	7.5	7.6	7.5	7.5	7.6	6.7	6.9	7.1	7.0	7.7				
Vineyard Haven, Mass.	10.8	10.7	10.2	10.0	10.1	9.8	9.6	9.6	10.6	11.5	11.9	11.8	12.3	12.2	11.9	11.5	10.6	10.8	10.8	11.2	11.4	11.0	10.9			
Walla Walla, Wash.	6.8	6.0	5.5	5.3	5.2	6.1	6.4	6.5	6.4	6.2	6.3	7.0	7.2	7.6	7.4	7.4	7.2	7.3								

TABLE VI.—Resultant winds from observations at 8 a. m. and 8 p. m., daily, during the month of January, 1899.

Stations.	Component direction from—				Resultant.		Stations.	Component direction from—				Resultant.	
	N.	S.	E.	W.	Direction from—	Duration.		N.	S.	E.	W.	Direction from—	Duration.
<i>New England.</i>													
Eastport, Me.	20	12	6	37	n. 76 w.	32	<i>North Dakota—Continued.</i>	Hours.	Hours.	Hours.	Hours.	o	Hours.
Portland, Me.	18	15	4	40	n. 85 w.	31	Bismarck, N. Dak.	28	8	13	29	n. 37 w.	25
Northfield, Vt.	18	33	2	11	s. 24 w.	22	Williston, N. Dak.	21	13	13	29	n. 83 w.	18
Boston, Mass.	17	17	3	38	n. 74 w.	36	<i>Upper Mississippi Valley.</i>						
Nantucket, Mass.	23	14	4	37	n. 75 w.	34	St. Paul, Minn.	15	26	16	26	s. 42 w.	15
Woods Hole, Mass.*	9	13	2	15	s. 73 w.	14	La Crosse, Wis. †	6	18	4	11	s. 34 w.	14
Block Island, R. I.	26	11	5	35	n. 68 w.	31	Davenport, Iowa	12	22	13	27	s. 54 w.	17
New Haven, Conn.	25	25	3	30	w.	27	Des Moines, Iowa	17	23	6	31	s. 57 w.	20
<i>Middle Atlantic States.</i>							Dubuque, Iowa	10	29	14	25	s. 30 w.	22
Albany, N. Y.	19	26	10	20	s. 55 w.	12	Keokuk, Iowa	15	27	11	25	s. 49 w.	18
Binghamton, N. Y. †	9	6	9	11	n. 34 w.	4	Cairo, Ill.	23	23	8	18	s. 45 w.	17
New York, N. Y.	22	17	9	29	n. 76 w.	21	Springfield, Ill.	18	26	7	20	s. 58 w.	15
Harrisburg, Pa. †	8	5	10	14	n. 53 w.	5	Hannibal, Mo. †	9	12	2	13	s. 75 w.	11
Philadelphia, Pa.	25	18	10	23	n. 60 w.	14	St. Louis, Mo.	20	30	9	12	s. 17 w.	10
Atlantic City, N. J.	25	15	8	27	n. 62 w.	22	<i>Missouri Valley.</i>						
Baltimore, Md.	22	18	17	23	n. 51 w.	6	Columbia, Mo.	7	12	7	7	s.	5
Cape May, N. J.	24	22	7	20	n. 81 w.	13	Kansas City, Mo.	17	29	17	18	s. 5 w.	12
Washington, D. C.	26	20	10	17	n. 49 w.	9	Springfield, Mo.	15	32	15	12	s. 10 e.	17
Lynchburg, Va.	23	18	21	22	n. 14 w.	4	Lincoln, Nebr.	20	28	6	21	s. 62 w.	17
Norfolk, Va.	24	26	17	12	s. 68 e.	5	Omaha, Nebr.	17	25	7	26	s. 67 w.	21
Richmond, Va.	21	27	10	14	s. 34 w.	7	Sioux City, Iowa	7	16	4	13	s. 42 w.	13
<i>South Atlantic States.</i>							Pierre, S. Dak.	23	10	19	23	n. 35 w.	16
Charlotte, N. C.	21	25	17	17	s.	4	Huron, S. Dak.	16	18	16	26	s. 40 w.	16
Hatteras, N. C.	23	20	7	16	n. 48 w.	12	Yankton, S. Dak. †	6	10	3	17	s. 74 w.	15
Raleigh, N. C.	27	20	8	20	n. 60 w.	14	<i>Northern Slope.</i>						
Wilmington, N. C.	25	17	14	21	n. 41 w.	11	Havre, Mont.	14	18	12	25	s. 80 w.	23
Charleston, S. C.	30	15	13	18	n. 16 w.	16	Miles City, Mont.	18	20	5	20	s. 86 w.	28
Augusta, Ga.	29	9	12	22	n. 27 w.	22	Helena, Mont.	21	14	9	22	n. 79 w.	27
Savannah, Ga.	28	17	11	19	n. 3 w.	14	Rapid City, S. Dak.	21	11	10	22	s. 86 w.	24
Jacksonville, Fla.	35	14	18	14	n. 11 e.	21	Cheyenne, Wyo.	22	10	1	44	n. 75 w.	45
<i>Florida Peninsula.</i>							Lander, Wyo.	13	28	12	29	s. 48 w.	23
Jupiter, Fla.	18	16	16	18	n. 45 w.	3	North Platte, Nebr.	24	16	6	33	n. 73 w.	28
Key West, Fla.	25	8	40	2	n. 66 e.	4	<i>Middle Slope.</i>						
Tampa, Fla.	30	12	39	9	n. 48 e.	27	Denver, Colo.	14	28	7	23	s. 49 w.	21
<i>Eastern Gulf States.</i>							Pueblo, Colo.	26	12	15	22	s. 27 w.	16
Atlanta, Ga.	18	14	23	22	n. 14 e.	1	Concordia, Kans.	14	32	4	23	s. 38 w.	23
Pensacola, Fla.	27	13	25	8	n. 48 e.	23	Dodge, Kans.	20	17	12	22	n. 73 w.	10
Mobile, Ala.	31	15	14	9	n. 16 e.	19	Oklahoma, Okla.	23	30	6	11	s. 36 w.	9
Montgomery, Ala.	18	16	27	14	n. 81 e.	13	<i>Southern Slope.</i>						
Meridian, Miss. †	15	5	9	5	n. 23 e.	11	Abilene, Tex.	20	26	11	20	s. 56 w.	11
Vicksburg, Miss.	20	24	29	6	s. 80 e.	23	Amarillo, Tex.	23	23	7	15	w.	6
New Orleans, La.	27	18	18	12	n. 29 e.	12	<i>Southern Plateau.</i>						
<i>Western Gulf States.</i>							El Paso, Tex.	29	2	8	30	n. 39 w.	35
Shreveport, La.	19	26	25	11	s. 67 e.	15	Santa Fe, N. Mex.	33	9	29	10	n. 39 e.	31
Fort Smith, Ark.	16	10	35	11	n. 76 e.	25	Flagstaff, Ariz.	23	18	19	24	n. 27 w.	11
Little Rock, Ark.	20	21	16	19	s. 72 w.	3	Phoenix, Ariz.	17	9	26	23	n. 21 e.	8
Corpus Christi, Tex.	30	17	20	8	n. 43 e.	18	Yuma, Ariz.	33	5	20	15	n. 9 e.	33
Fort Worth, Tex. †	10	21	5	12	s. 32 w.	13	Independence, Cal.	31	6	5	35	n. 50 w.	39
Galveston, Tex.	23	14	30	10	n. 66 e.	22	<i>Middle Plateau.</i>						
Palestine, Tex.	25	21	18	13	n. 51 e.	6	Carson City, Nev.	16	21	9	25	s. 73 w.	17
San Antonio, Tex.	25	22	25	8	n. 80 e.	17	Winnemucca, Nev.	10	26	6	21	s. 80 w.	20
<i>Ohio Valley and Tennessee.</i>							Salt Lake City, Utah.	8	23	20	19	s. 2 e.	24
Chattanooga, Tenn.	14	28	15	15	s.	14	Grand Junction, Colo.	23	9	20	26	n. 25 w.	14
Knoxville, Tenn.	26	16	18	22	n. 42 w.	14	<i>Northern Plateau.</i>						
Memphis, Tenn.	25	23	14	13	n. 27 e.	2	Baker City, Oreg.	11	27	17	14	s. 7 e.	26
Nashville, Tenn.	29	25	9	20	n. 70 w.	12	Boise, Idaho.	17	20	16	16	s. 73 e.	10
Lexington, Ky. †	9	15	6	6	s.	6	Idaho Falls, Idaho.	15	28	0	12	s. 28 w.	26
Louisville, Ky.	17	34	12	15	s. 10 w.	17	Spokane, Wash.	11	25	15	20	s. 38 w.	18
Evansville, Ind. †	8	16	5	4	s. 7 e.	8	Walla Walla, Wash.	7	40	5	23	s. 29 w.	33
Indianapolis, Ind.	18	28	10	20	s. 45 w.	14	<i>North Pacific Coast Region.</i>						
Cincinnati, Ohio	17	28	14	20	s. 29 w.	12	Fort Canby, Wash.	3	24	28	15	s. 31 e.	25
Columbus, Ohio	16	28	9	22	s. 52 w.	16	Neah, Wash.	0	8	32	21	s. 54 e.	14
Pittsburg, Pa.	20	23	9	24	s. 70 w.	15	Port Crescent, Wash. *	4	11	9	16	s. 45 w.	10
Parkersburg, W. Va.	17	29	11	18	s. 30 w.	14	Seattle, Wash.	13	34	21	4	s. 18 e.	23
Elkins, W. Va.	17	18	3	31	s. 88 w.	23	Tacoma, Wash.	10	34	9	24	s. 32 w.	28
<i>Lower Lake Region.</i>							Portland, Oreg.	14	31	18	11	s. 7 e.	17
Buffalo, N. Y.	11	20	12	35	s. 60 w.	25	Roseburg, Oreg.	8	30	16	21	s. 8 w.	23
Oswego, N. Y.	11	33	13	21	s. 20 w.	23	<i>Middle Pacific Coast Region.</i>						
Rochester, N. Y.	11	25	8	39	s. 67 w.	36	Eureka, Cal.	16	26	21	19	s. 11 e.	10
Erie, Pa.	7	29	7	29	s. 45 w.	31	Mount Tamalpais, Cal.	21	12	15	19	s. 12 w.	19
Cleveland, Ohio.	12	33	17	18	s. 3 w.	21	Red Bluff, Cal.	24	17	6	19	s. 38 w.	22
Sandusky, Ohio.	13	24	12	31	s. 36 w.	14	Sacramento, Cal.	22	24	8	21	s. 82 e.	15
Toledo, Ohio.	12	22	8	33	s. 68 w.	27	San Francisco, Cal.	25	14	16	21	n. 24 w.	12
Detroit, Mich.	12	26	9	35	s. 62 w.	20	<i>South Pacific Coast Region.</i>						
<i>Upper Lake Region.</i>							Fresno, Cal.	24	14	19	19	n.	10
Alpena, Mich.	10	25	3	34	s. 64 w.	34	Los Angeles, Cal.	17	16	17	24	n. 82 w.	7
Escanaba, Mich.	15	23	5	34	s. 75 w.	30	San Diego, Cal.	20	9	21	24	n. 18 w.	23
Grand Haven, Mich.	16	20	13	27	s. 74 w.	15	San Luis Obispo, Cal.	24	15	3	12	n. 25 w.	21
Marquette, Mich.	11	25	5	33	s. 63 w.	31	<i>West Indies.</i>						
Port Huron, Mich.	9	35	8	20	s. 24 w.	30	Basseterre, St. Kitts Island	15	0	56	0	n. 76 e.	58
Sault Ste. Marie, Mich.	12	21	24	20	s. 24 e.	10	Brigetown, Barbados	22	0	58	0	n. 67 e.	56
Chicago, Ill.	18	23	9	29	s. 76 w.	21	Colon, U. S. C.	43	3	31	5	n. 33 e.	48
Milwaukee, Wis.	14	21	7	35	s. 76 w.	29	Kingston, Jamaica	34	9	28	10	n. 36 e.	31
Green Bay, Wis.	13	29	6	26	s. 51 w.	26	Port of Spain, Trinidad	30	2	42	2	n. 55 e.	49
Duluth, Minn.	10	24	8	38	s. 65 w.	33	San Juan, Porto Rico	2	21	47	4	s. 66 e.	47
<i>North Dakota.</i>							Santiago de Cuba, Cuba.	29	14	23	22	n. 47 e.	42
Moorhead, Minn.	20	19	15	24	n. 84 w.	9	Santo Domingo, Santo Domingo	47	0	14	5	n. 12 e.	42
							Willemstad, Curacao.	1	1	62	0	e.	62

* From observations at 8 p. m. only.

† From observations at 8 a. m. only.

TABLE VII.—*Thunderstorms and auroras, January, 1899.*

States.	No. of stations.	Total.																																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	No.	Days.	
Alabama.....	53	T.				3				4					3																		9	3	T.
Arizona.....	53	A.																														0	0	A.	
Arkansas.....	57	A.				15	1	1		1	1	2	7	9	3		1												44	12	A.				
California.....	189	T.	A.	1								5																		1	1	A.			
Colorado.....	73	T.	A.																												0	0	A.		
Connecticut.....	23	T.	A.																												19	3	A.		
Delaware.....	5	T.	A.																												2	1	A.		
Dist. of Columbia	4	T.	A.																												1	1	A.		
Florida.....	45	T.	A.															2	4	4											4	5	A.		
Georgia.....	54	T.	A.					1			1							1	1		1									0	0	A.			
Idaho.....	27	T.	A.																												0	0	A.		
Illinois.....	92	T.	A.			4											4	1												8	2	A.			
Indiana.....	55	T.	A.	1	1	4										2	6	3												18	4	A.			
Indian Territory.	8	T.	A.																												0	0	A.		
Iowa.....	126	T.	A.																												0	0	A.		
Kansas.....	74	T.	A.																											2	3	A.			
Kentucky.....	45	T.	A.			1	1									8	11	5											2	6	A.				
Louisiana.....	45	T.	A.	1	4																										2	3	A.		
Maine.....	17	T.	A.																												0	0	A.		
Maryland.....	39	T.	A.																												1	1	A.		
Massachusetts...	54	T.	A.																1	1	1									0	0	A.			
Michigan.....	107	T.	A.															1												0	0	A.			
Minnesota.....	84	T.	A.													1	1													9	6	A.			
Mississippi.....	42	T.	A.			6	8									1	2	7			2	2	1						12	4	A.				
Missouri.....	89	T.	A.														2	1												3	2	A.			
Montana.....	37	T.	A.																											0	0	A.			
Nebraska.....	145	T.	A.																											0	0	A.			
Nevada.....	45	T.	A.																											1	1	A.			
New Hampshire.	20	T.	A.																												0	0	A.		
New Jersey.....	50	T.	A.													1		1												35	4	A.			
New Mexico.....	38	T.	A.															1												0	0	A.			
New York.....	108	T.	A.	1														1												9	3	A.			
North Carolina..	56	T.	A.														1													15	2	A.			
North Dakota ..	40	T.	A.																											0	0	A.			
Ohio.....	124	T.	A.			1	4									1	16	25				2							1	8	A.				
Oklahoma.....	22	T.	A.														3	1	2										5	5	A.				
Oregon.....	71	T.	A.													1	2												1	1	A.				
Pennsylvania....	100	T.	A.														1												7	3	A.				
Rhode Island....	8	T.	A.																											1	1	A.			
South Carolina ..	44	T.	A.														1		2											10	4	A.			
South Dakota...	52	T.	A.																											6	3	A.			
Tennessee.....	61	T.	A.			3											4												9	3	A.				
Texas.....	83	T.	A.			2	5	4								4	1	8										28	11	A.					
Utah.....	34	T.	A.																											0	0	A.			
Vermont.....	14	T.	A.														1												2	1	A.				
Virginia.....	47	T.	A.														1												1	1	A.				
Washington....	55	T.	A.														2	3											5	2	A.				
West Virginia ..	38	T.	A.																										3	1	A.				
Wisconsin.....	60	T.	A.																1	1									0	0	A.				
Wyoming.....	18	T.	A.																										5	0	A.				
Sums	2,804	T.	A.	0	1	5	39	13	8	0	0	6	9	10	22	60	50	5	16	8	0	3	8	0	1	1	11	0	426	79	T.				
		A.	A.	1	3	0	1	0	1	0	1	2	2	0	1	1	1	0	3	2	0	1	1	1	2	4	1	426	79	A.					

TABLE VIII.—*Average hourly sunshine (in percentages), January, 1899.*

Stations.	Instrument.	Percentages for each hour of local mean time ending with the respective hour.														Hours of sunshine.				
		A. M.							P. M.							Total.		Personal estimate.		
		5	6	7	8	9	10	11	Noon	1	2	3	4	5	6	7	8	Actual.	Possible.	
Albany, N. Y.	T.	38	33	51	58	68	67	66	60	41	38	33	33	33	33	33	153.1	292.7	52	42
Atlanta, Ga.	P.	20	29	33	42	45	48	45	42	39	33	33	33	33	33	33	121.3	316.2	58	35
Atlantic City, N. J.	P.	47	51	56	62	57	55	59	68	60	56	56	56	56	56	56	178.2	308.8	57	47
Baltimore, Md.	T.	31	47	65	72	80	78	72	68	49	49	49	49	49	49	49	195.8	309.8	61	51
Binghamton, N. Y.	T.	31	32	51	61	68	53	56	52	48	30	15	15	15	15	15	142.4	295.5	48	41
Bismarck, N. Dak.	P.	68	65	54	56	53	46	57	57	43	44	0	0	0	0	0	149.8	270.9	54	48
Boise	P.	16	16	23	25	23	18	19	21	13	12	12	12	12	12	12	54.6	238.7	19	33
Boston, Mass.	T.	34	47	59	70	74	73	71	69	64	53	53	53	53	53	53	185.2	295.5	53	57
Buffalo, N. Y.	T.	11	12	23	32	45	48	43	29	22	14	14	14	14	14	14	84.2	292.7	29	41
Charleston, S. C.	T.	50	24	31	37	44	51	57	58	51	37	25	20	20	20	20	129.9	318.5	41	41
Chattanooga, Tenn.	T.	0	26	28	39	45	50	48	40	38	35	27	28	28	28	28	117.7	314.6	37	37
Cheyenne, Wyo.	P.	50	59	68	73	74	74	74	80	73	69	44	6	6	6	6	100.0	298.4	67	49
Chicago, Ill.	T.	25	32	42	51	58	61	67	62	47	43	62	62	62	62	62	145.8	295.5	49	45
Cincinnati, Ohio	T.	38	44	47	50	49	49	51	50	35	38	60	60	60	60	60	138.3	303.8	36	41
Cleveland, Ohio	T.	30	29	31	39	48	37	23	20	18	18	0	0	0	0	0	88.4	295.5	28	30
Columbia, Mo.	T.	45	51	55	58	56	57	55	55	52	56	50	50	50	50	50	164.8	303.8	54	37
Columbus, Ohio	T.	43	38	33	33	32	29	27	26	25	26	36	36	36	36	36	96.6	301.1	32	45
Denver, Colo.	P.	50	77	81	80	82	83	86	79	78	70	70	70	70	70	70	232.5	301.1	70	62
Des Moines, Iowa	T.	37	34	52	64	74	75	77	76	62	58	60	60	60	60	60	188.3	295.5	32	35
Detroit, Mich.	T.	19	25	41	43	48	53	50	34	22	18	31	31	31	31	31	105.3	295.5	36	30
Dodge, Kans.	P.	60	59	65	72	73	68	77	72	65	45	44	44	44	44	44	200.4	306.5	65	52
Dubuque, Iowa	T.	41	40	52	64	70	70	74	65	57	53	69	69	69	69	69	173.8	295.5	59	42
Eastport, Me.	P.	33	44	52	60	64	55	59	52	45	39	38	38	38	38	38	147.8	286.7	52	42
Erie, Pa.	T.	18	17	27	36	36	34	39	29	21	21	8	8	8	8	8	30.0	295.5	27	25
Escanaba, Mich.	T.	31	24	40	51	49	51	46	41	26	28	100	100	100	100	100	112.3	288.1	40	41
Eureka, Cal.	P.	28	26	35	42	45	45	42	45	39	37	71	71	71	71	71	116.3	298.4	39	31
Fresno, Cal.*	T.	6	21	43	47	55	52	53	55	54	54	41	30	30	30	30	151.3	326.8	46	39
Galveston, Tex.	P.	35	33	50	69	73	77	69	65	58	61	90	90	90	90	90	185.5	308.8	61	45
Grand Junction, Colo.	T.	30	23	38	42	51	53	49	46	43	35	42	42	42	42	42	137.4	301.1	42	41
Harrisburg, Pa.	T.	15	18	22	28	34	36	35	39	28	25	0	0	0	0	0	81.0	279.9	29	24
Helena, Mont.	T.	61	62	71	71	82	80	80	89	81	83	83	83	83	83	83	208.2	289.7	70	59
Huron, S. Dak.	T.	0	0	0	9	11	13	16	10	6	2	0	0	0	0	0	21.0	292.7	7	6
Idaho Falls, Idaho	T.	27	30	37	46	39	43	44	35	29	29	30	30	30	30	30	109.7	301.1	36	31
Indianapolis, Ind.	T.	17	15	30	44	54	56	54	53	44	39	19	19	19	19	19	136.7	324.9	42	31
Jacksonville, Fla.	T.	60	60	57	58	54	44	51	53	51	52	70	70	70	70	70	162.5	308.8	53	49
Kansas City, Mo.	T.	35	39	63	73	89	93	91	89	82	70	51	37	37	37	37	239.4	334.2	72	48
Key West, Fla.	T.	26	41	52	55	66	67	61	62	49	42	41	41	41	41	41	162.8	311.8	54	46
Knoxville, Tenn.	T.	20	26	35	42	46	53	53	49	45	35	32	32	32	32	32	123.5	306.5	40	30
Lexington, Ky.	T.	0	35	36	45	52	55	50	60	57	52	46	44	44	44	44	156.3	314.6	50	49
Little Rock, Ark.	T.	10	65	72	73	79	79	77	76	75	76	76	75	75	75	75	238.5	316.2	75	62
Los Angeles, Cal.	T.	26	30	32	36	38	38	36	34	32	33	31	31	31	31	31	101.0	306.5	33	26
Louisville, Ky.	T.	49	46	58	63	65	71	68	57	55	55	54	67	67	67	67	169.0	286.7	59	40
Minneapolis, Minn.	P.	60	57	58	62	60	57	57	54	57	54	49	72	72	72	72	174.9	306.5	5	40
Mount Tamalpais, Cal.	T.	26	29	35	44	47	47	44	47	44	34	34	34	34	34	34	115.7	311.8	87	37
Nashville, Tenn.	T.	12	10	12	24	35	41	47	47	41	35	33	38	38	38	38	105.5	324.9	32	35
New Orleans, La.	T.	36	46	62	67	71	74	68	65	59	41	35	35	35	35	35	177.9	298.4	60	50
New York, N. Y.	T.	31	35	51	56	57	55	61	61	53	45	33	33	33	33	33	149.8	299.7	52	49
Northfield, Vt.	T.	0	52	55	60	66	71	69	67	65	57	46	46	46	46	46	190.7	319.6	61	56
Oklahoma, Okla.	T.	47	51	68	66	70	75	74	75	64	51	41	41	41	41	41	191.4	298.4	64	63
Omaha, Nebr.	T.	16	31	48	61	59	69	62	46	38	33	33	33	33	33	33	135.7	308.8	45	39
Parkersburg, W. Va.	T.	91	71	76	87	91	88	90	89	88	80	85	83	83	83	83	269.2	318.5	71	65
Phoenix, Ariz.	T.	39	41	55	61	63	61	61	62	58	56	56	56	56	56	56	162.4	301.1	54	41
Philadelphia, Pa.	T.	3	5	15	38	40	45	31	22	22	10	6	0	0	0	0	64.7	294.4	22	35
Pittsburg, Pa.	T.	34	44	56	77	77	79	75	68	68	64	51	50	50	50	50	186.5	299.7	64	51
Portland, Me.	T.	2	3	3	6	6	14	21	18	4	7	0	0	0	0	0	93.5	288.1	18	13
Portland, Oreg.	T.	23	25	36	48	55	57	58	50	43	39	41	39	39	39	39	155.5	311.8	48	44
Raleigh, N. C.	T.	24	20	26	39	43	33	40	32	22	20	22	22	22	22	22	85.6	292.7	19	28
Rochester, N. Y.	T.	26	29	41	52	64	65	65	59	59	52	42	42	42	42	42	153.3	303.8	50	40
St. Louis, Mo.	T.	56	55	56	62	64	67	67	68	61	66	60	100	100	100	100	178.3	286.7	62	55
St. Paul, Minn.	P.	25	27	42	40	39	47	59	51	50	48	38	38	38	38	38	94.4	298.4	32	21
Salt Lake City, Utah.	P.	24	28	30	35	34	30	42	46	31	15	12	12	12	12	12	245.4	318.5	73	63
San Diego, Cal.	T.	22	64	65	75	75	79	80	83	84	81	81	81	81	81	81	152.1	306.5	50	38
San Francisco, Cal.	T.	7	24	46	59	67	68	68	66	64	60	60	60	60	60	60	158.7	311.8	80	77
Santa Fe, N. Mex.	T.	68	62	85	84	81	81	83	80	84	80	72	69	69	69	69	147.0	320.5	46	36
Savannah, Ga.	T.	25	27	42	40	39	47	59	51	50	48	41	41	41	41	41	158.5	303.8	52	46
Seattle, Wash.	T.	3	9	12	23	28	28	24	23	23	8	4</								

TABLE IX.—Accumulated amounts of precipitation for each 5 minutes, for storms in which the rate of fall equaled or exceeded 0.25 in any 5 minutes, or 0.75 in 1 hour during January, 1899, at all stations furnished with self-registering gauges.

Stations.	Date.	Total duration.		Total amt. of precipi- tation.	Excessive rate.		Amount be- fore exces- sive begin-	Depths of precipitation (in inches) during periods of time as indicated.															
		From—	To—		Began—	Ended—		5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.		
Albany, N. Y.	1	6-7	8	4	0.97															*			
Atlanta, Ga.		10																		0.43			
Atlantic City, N. J.	16-17																			0.17			
Baltimore, Md.	6-7																			*			
Binghamton, N. Y.	24-25																			*			
Bismarck, N. Dak.	14																			*			
Boise, Idaho	14-15																			0.13			
Boston, Mass.	24-25																			0.39			
Buffalo, N. Y.	14																			0.19			
Cairo, Ill.	12-13																			0.44			
Charleston, S. C.	24																			0.35			
Chicago, Ill.	4																			*			
Cincinnati, Ohio	13-14																			0.41			
Cleveland, Ohio	13-14																			0.37			
Columbia, Mo.	4																			0.19			
Columbus, Ohio	13-14																			0.33			
Denver, Colo.	26-27																			0.10			
Des Moines, Iowa	12																			0.07			
Detroit, Mich.	13-14																			*			
Dodge, Kans.	30																			*			
Duluth, Minn.	25-26																			*			
Eastport, Me.	24-25																			*			
Erie, Pa.	14																			*			
Escanaba, Mich.	23																			*			
Fort Worth, Tex.	5																			0.23			
Fresno, Cal.	9-10																			*			
Galveston, Tex.	5-6	11.45 p.m.	9.57 a.m.	0.97	2.40 a.m.	2.55 a.m.	0.08	0.27	0.50	0.68	0.65	0.69	0.70	0.84	1.15	1.37	1.73	1.87	0.08				
Do.	9-10	4.27 p.m.	2.35 a.m.	0.16	11.35 p.m.	12.30 a.m.	0.11	0.05	0.08	0.19	0.30	0.41	0.52							*			
Hannibal, Mo.	4																			0.21			
Harrisburg, Pa.	6-7																			*			
Hatteras, N. C.	16																			0.45			
Huron, S. Dak.	22																			*			
Idaho Falls, Idaho	11																			0.26			
Indianapolis, Ind.	4																			0.42			
Jacksonville, Fla.	26-28																			0.42			
Jupiter, Fla.	13	D. N.	4.35 a.m.	0.67	4.00 a.m.	4.20 a.m.	0.05	0.05	0.35	0.45	0.60	0.62								0.23			
Do.	27	12.30 p.m.	8.30 p.m.	0.71	3.50 p.m.	0.08	0.22	0.40												*			
Kansas City, Mo.	12																			0.21			
Key West, Fla.	18	3.20 a.m.	5.40 a.m.	2.04	3.40 a.m.	4.17 a.m.	0.05	0.05	0.19	0.35	0.35	1.05	1.31	1.40	1.49	1.51	1.52	1.55	1.58	0.23			
Do.	23	4.56 p.m.	D. N.	1.55	10.15 p.m.	11.00 p.m.	0.28	0.05	0.30	0.42	0.48	0.65	0.80	1.04	1.14	1.21	1.25	1.28	1.32	1.35	0.35		
Knoxville, Tenn.	8-1																			*			
Lincoln, Nebr.	28																			*			
Little Rock, Ark.	12-13																			0.52			
Los Angeles, Cal.	10-11																			0.35			
Louisville, Ky.	13-14																			0.33			
Memphis, Tenn.	12	2.00 a.m.	1.10 p.m.	1.63	4.45 a.m.	5.10 a.m.	0.05	0.11	0.17	0.26	0.34	0.44	0.45	0.47	0.48	0.50	0.53	0.54	0.56	0.58	0.64		
Milwaukee, Wis.	6																			0.03			
Montgomery, Ala.	18																			0.60			
Nantucket, Mass.	16-17																			0.21			
Nashville, Tenn.	5-6																			0.21			
New Orleans, La.	16																			*			
New York, N. Y.	5-7																			0.39			
Norfolk, Va.	14																			0.65			
Northfield, Vt.	14-15																			*			
Oklahoma, Okla.	4																			0.46			
Omaha, Nebr.	28																			0.01			
Parkersburg, W. Va.	8-4																			0.18			
Philadelphia, Pa.	5-7																			0.40			
Pittsburg, Pa.	23-24																			*			
Portland, Me.	24-25																			0.24			
Portland, Oreg.	10																			0.23			
Raleigh, N. C.	14																			0.46			
Richmond, Va.	5-7																			0.18			
Rochester, N. Y.	14																			*			
St. Louis, Mo.	13-14																			0.11			
St. Paul, Minn.	32-33																			0.17			
Salt Lake City, Utah	15-16																			*			
San Diego, Cal.	10	6.05 p.m.	11.59 p.m.	1.20	10.50 p.m.	11.30 p.m.	0.50	0.15	0.26	0.29	0.37	0.40	0.46	0.55	0.60	0.62	0.65	0.70	0.72	0.74	0.76		
San Francisco, Cal.	6-7																			0.18			
Savannah, Ga.	10																			0.49			
Seattle, Wash.	14-16																			0.07			
Spokane, Wash.	*																			1.00†			
Tampa, Fla. *	23																						
Vicksburg, Miss.	5-6	11.15 a.m.	10.50 a.m.	6.30	11.40 p.m.	12.30 a.m.	5.00 p.m.	5.50 p.m.	0.47	0.03	0.05	0.09	0.14	0.20	0.23	0.28	0.32	0.36	0.39	0.42	0.45		
Washington, D. C.	24	7.15 p.m.	9.48 p.m.	0.57	6.50 p.m.	6.40 p.m.	0.40	0.42	0.44	0.47	0.51	0.60	0.64	0.68	0.70	0.72	0.74	0.76	0.78	0.80	0.82		
Wilmington, N. C.	14																			0.52			
Yankton, S. Dak.	22-23																			*			
Passterre, St. Kitts	7																			0.35			
Bridgetown, Barbados	1																			0.35			
Colon, U. S. C.	9	6.10 a.m.	7.45 a.m.	0.76	6.30 a.m.	6.51 a.m.	0.01	0.18	0.23	0.39	0.55	0.59	0.60	0.64	0.67	0.70	0.72	0.74	0.76	0.78	0.80		
Do.	18	7.10 p.m.	8.45 p.m.	1.40	8.15 p.m.	9.05 p.m.	0.19	0.04	0.18	0.38	0.54	0.73	0.82	0.86	0.88	0.90	0.92	0.94	0.96	0.98	0.99		
Kingston, Jamaica	2	12.23 p.m.	3.00 p.m.	0.59	1.08 p.m.	1.23 p.m.	0.11	0.31	0.47	0.49										0.37			
Port of Spain																							

TABLE X.—*Excessive precipitation, by stations, for January, 1899.*

Stations.	Monthly rainfall 10 inches, or more.	Rainfall 2-50 inches, or more, in 24 hours.			Rainfall of 1 inch, or more, in one hour.		
		Amt.	Day.	Amt.	Time.	Day.	
<i>Alabama.</i>							
Newton	Inches.	Inches.		Ins.	h.m.		
		4.43		6			
Amity		8.95	18				
Brinkley		5.70	13				
Conway		8.25	12-13				
Hot Springs		8.81	18-14				
Little Rock		8.60	12-13				
Lonoke		11.19	6.62	12-13			
Malvern		4.08	18				
Newport		2.96	18				
Oscceola		4.05	12-13				
Picayune		2.87	18				
Pine Bluff		2.95	18				
Prescott		5.00+	12				
Stamps		2.86	12-13				
Stuttgart		4.01	18				
Washington		7.13	12-13				
Wiggs		4.19	12-13				
<i>Arkansas.</i>							
Anada		13.03					
Bear Valley		11.95					
Bowmans Dam		14.11	3.80	2-3			
Do		3.09	11-12				
Crescent City		11.06					
Cuyamaca		3.60	10-11				
Edmonton		13.12	4.99	1-2			
Elsinore		2.78	10				
Fordyce Dam		10.84					
Fort Ross		20.83	4.80	1			
Do		7.08	9-10				
Grass Valley		10.76	2.78	10			
Healdsburg		15.33	3.46	10			
Do		4.61	14				
Laporte		12.95					
Los Gatos		3.40	9-10				
Malakoff Mine		10.88	2.80	9-10			
North San Juan		10.25					
Peachland		16.16	6.00	9-10			
Do		4.90	13-14				
Pilot Creek		10.81	3.79	2			
Quincy		3.08	1				
Red Bluff		4.04	9-10				
Redding		2.50	1				
Rosewood		3.52	9-10				
Shasta		12.42	3.87	1			
Do		3.09	9				
Do		2.57	14				
Summerdale		2.51	2				
Do		2.84	9-10				
Ukiah		10.54					
Ventura		3.25	10				
<i>Florida.</i>							
Defuniak Springs		3.50	6				
Earnestville		2.85	31				
Key West							
Do							
Tampa							
<i>Georgia.</i>							
Fitzgerald		2.91	16				
Fort Gaines		2.92	7				
Morgan		3.50	10				
<i>Kentucky.</i>							
Alpha		2.50	5				
Fords Ferry		2.70	12-13				
Hopkinsville		3.39	13-14				
Leitchfield		3.30	12-13				
Lexington		2.58	12-13				
Loretto		2.03	12-13				
Richmond		3.00	13				
Russellville		3.50	13-14				
Shelby City		2.70	13				
Williamsburg		2.95	5-6				
<i>Louisiana.</i>							
Abbeville		2.52	16				
Alexandria		10.85	6.00	6			
Clinton		4.10	5-6				
Grand Coteau		10.42	6.83	5-6			
Jennings		14.01	8.44	5-6			
Lake Charles		12.82	5.95	5-6			
Liberty Hill		3.88	4				
Oakridge		6.10	5-6				
Plaquemine		2.60	16				
Rayne		11.23	6.17	5-6			
Shellbeach		8.40	5				

MONTHLY WEATHER REVIEW.

TABLE X.—*Excessive precipitation—Continued.*

Stations.	Monthly rainfall 10 inches, or more.	Rainfall 2-50 inches, or more, in 24 hours.			Rainfall of 1 inch, or more, in one hour.		
		Amt.	Day.	Amt.	Time.	Day.	
<i>Louisiana—Continued.</i>							
Sugartown	Inches.	11.08		8.33	5-6		
White Sulphur Springs		5.30		6			
<i>Mississippi.</i>							
Briers		10.96					
Brookhaven		10.42					
Canton		13.95		8.97	5-6		
Edwards		10.73		6.67	5-6		
Fayette		10.35		5.10	5-6		
French Camps				8.60	6		
Greenwood				4.47	4-5		
Louisville				3.40	5		
Natchez		11.05		7.25	5-6		
Palo Alto				3.05	6		
Port Gibson				12.12	6.93	5-6	
Vicksburg				10.37	6.30	5-6	
Walnut Grove				11.48	2.88	5-6	
Woodville				4.96	5-6		
<i>North Carolina.</i>							
Mane				2.95	5 6		
Oakridge				3.56	5-6		
Salem				2.74	6		
Saxon				3.25	6		
<i>Oregon.</i>							
Astoria		18.84		3.22	19-20		
Bay City		23.53		2.60	14		
Do				5.50	20-21		
Cascade Locks				15.34			
Fairview				12.36			
Falls City				15.69			
Gardiner				18.06			
Glenora				30.08	4.31	15	
Do					5.25	19	
Government Camp				20.79	3.04	15	
Do					2.09	31	
Kerby				12.49			
Langlois				12.31			
Nehalem				24.04	8.76	19-20	
Newport				13.24			
Tillamook Rock				10.06			
Toledo				13.80			
<i>South Carolina.</i>							
Central				2.51	6		
Spartanburg				2.60	6-7		
<i>Tennessee.</i>							
Bolivar				2.68	24		
Columbia				2.55	27		
Elk Valley				3.10	6		
Erasmus				3.77	5-6		
Lynville				3.07	5-6		
Oakhill				2.50	6		
Tullahoma				3.00	5-6		
Union City				3.00	13		
Yukon				3.24	6		
<i>Texas.</i>							
Alvin				2.65	26-27		
Danevang				3.18	27		
Galveston				10.39	2.87	26-27	1.77 0.43 9-10
Hulen					3.23	26-27	
Sabine Pass					4.25	5	
<i>Virginia.</i>							
Colemans Falls				2.96	5-6		
Columbia				2.50	6		
Doswell				3.95	6		
<i>Washington.</i>							
Aberdeen				17.67			
Ashford				11.95			
Brinnon				12.10			
Cedar Lake				19.14	2.50	21	
Clearwater				24.38	4.12	20	
Fort Canby				15.48	4.65	19-21	
Grandmound				11.38			
Mayfield				10.70			
Neal				21.62			
Northbend				12.18			
Olympia				12.60			
Snoqualmie				11.34			
Southbend				19.83	3.50	20	
Stampede				12.34			
Tunnel				18.80			
Union				15.65			
<i>West Indies.</i>							
Colon							1.03 0 45 18

† Estimated.

TABLE XI.—Data furnished by the Canadian Meteorological Service, January, 1899.

Stations.	Pressure.			Temperature.			Precipitation.			Stations.	Pressure.			Temperature.			Precipitation.				
	Mean not reduced.	Mean reduced.	Departure from normal.	Mean.	Departure from normal.	Mean max. min.	Total.	Departure from normal.	Depth of snow.		Mean not reduced.	Mean reduced.	Departure from normal.	Mean.	Departure from normal.	Mean max. min.	Mean min. max.	Total.	Departure from normal.	Depth of snow.	
St. Johns, N. F.	In. 29.63	In. 29.78	- .07	20.3	- 3.5	27.5	18.1	4.54	.....	24.5	In. 29.30	In. 30.06	- .00	21.1	+ 0.7	28.8	18.8	3.96	+ 0.50	29.4	
Sydney, C. B. I.	29.90	29.94	+ .04	21.0	+ 0.5	30.2	11.7	4.72	- 0.09	26.0	Parry Sound, Ont.	29.31	30.05	- .08	14.4	+ 0.6	24.7	4.2	7.38	+ 4.18	57.5
Halifax, N. S.	29.90	30.04	+ .08	24.9	+ 3.1	38.8	16.0	5.09	- 0.60	11.4	Port Arthur, Ont.	29.24	30.00	- .11	3.2	+ 0.1	18.3	- 6.8	0.50	- 0.31	5.0
Grand Manan, N. B.	29.97	30.02	+ .03	24.8	+ 1.4	34.0	15.6	4.48	- 0.94	17.4	Winnipeg, Man.	29.12	30.04	- .15	- 4.8	+ 2.0	5.7	- 15.2	1.77	+ 1.11	17.7
Yarmouth, N. S.	29.98	30.04	+ .02	27.3	+ 1.0	35.1	19.5	6.22	+ 1.00	18.3	Minnedosa, Man.	29.05	30.04	- .13	- 2.7	+ 4.5	6.8	- 12.2	0.57	- 0.06	5.7
Charlottet'N, P. E. I.	29.93	29.96	.00	18.1	+ 1.1	26.5	9.7	4.13	+ 0.72	28.1	Qu'Appelle, Assin.	28.58	30.04	- .13	- 1.1	+ 5.7	6.8	- 9.0	1.39	+ 0.95	13.1
Chatham, N. B.	29.95	29.97	- .05	10.8	+ 1.0	21.8	- 0.3	2.91	- 0.37	24.8	Medicine Hat, Assin.	27.58	30.02	- .17	13.0	+ 7.5	23.0	3.1	1.13	- 0.79	11.2
Father Point, Que.	29.97	30.00	- .03	9.7	+ 1.7	19.3	0.0	0.92	- 1.78	7.8	Swift Current, Assin.	27.30	30.04	- .11	7.1	+ 4.0	14.9	- 0.8	0.62	+ 0.01	5.9
Quebec, Que.	29.69	30.05	- .01	11.0	+ 1.9	19.2	2.8	2.42	- 1.26	18.3	Calgary, Alberta	26.24	29.97	- .22	13.2	+ 4.8	23.5	3.0	0.85	+ 0.36	8.5
Montreal, Que.	29.67	30.10	+ .03	15.0	+ 3.3	24.5	5.5	4.62	+ 1.34	25.1	Banff, Alberta	25.19	30.03	.....	15.6	.....	22.7	8.5	1.88	.....	18.8
Rocklife, Ont.	29.50	30.05	- .01	8.2	+ 1.7	20.7	- 4.4	1.97	- 0.04	17.7	Edmonton, Alberta.	27.53	29.99	- .16	9.2	+ 7.4	18.0	0.4	1.09	+ 0.36	10.1
Ottawa, Ont.	29.72	30.06	....	13.5	+ 3.9	24.7	2.4	2.16	.....	14.1	Prince Albert, Sask.	29.32	29.99	.....	- 6.5	+ 1.9	3.4	- 16.4	1.96	.....	19.6
Kingston, Ont.	29.73	30.09	- .01	20.0	+ 2.9	28.8	11.2	2.15	- 1.11	7.5	Battleford, Sask.	28.17	30.08	.....	- 2.5	+ 3.4	6.4	- 11.4	0.37	.....	3.5
Toronto, Ont.	29.70	30.10	+ .01	23.2	+ 1.8	31.1	15.3	2.87	+ 0.86	4.7	Kamloops, B. C.	28.70	30.04	.....	24.9	.....	30.2	19.5	1.28	.....	8.0
White River, Ont.	28.57	30.05	- .06	1.12	- 0.8	13.1	- 15.6	1.49	+ 0.16	14.9	Esquimalt, B. C.	29.95	29.98	.....	39.2	+ 1.1	43.2	35.2	5.00	.....	12.6
Port Stanley, Ont.	29.43	30.11	+ .02	22.9	+ 0.7	30.1	15.7	2.97	+ 0.20	8.3	Hamilton, Bermuda.	30.04	30.20	+ .10	63.8	+ 1.8	68.9	58.7	5.10	.....	.....